Avian and Pandemic Influenza Strategic Guidelines for Missions and Regional Bureaus

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USAID Avian and Pandemic Influenza Management and Response Unit

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Note: This document and all appendices are works in progress and will be up-dated as new information becomes available. When referring to this document, always reference the version date. The most up-to-date version is always available to USAID staff on the agency intranet at http://ghintranet.usaid.gov/aiunit/.

LIST OF ACRONYMS

AI	Avian Influenza
CDC	U.S. Centers for Disease Control and Prevention
DOD	U.S Department of Defense
DOS	U.S. Department of State
FAO	U.N. Food and Agriculture Organization
HHS	U.S. Department of Health and Human Services
HPAI	Highly Pathogenic Avian Influenza
M&E	Monitoring and Evaluation
MOA	Ministry of Agriculture
MOH	Ministry of Health
NGO	Non-Governmental Organization
OIE	World Organization for Animal Health
OFDA	USAID Office of Foreign Disaster Assistance
PPE	Personal Protective Equipment
SARS	Sudden Acute Respiratory Syndrome
USAID	U.S. Agency for International Development
USDA	U.S. Department of Agriculture
USG	U.S. Government
WHO	U.N. World Health Organization

Introduction

Influenza A virus subtype H5N1 was first identified in Hong Kong in 1997 where it infected at least 18 people with six fatalities. After rapid and comprehensive containment measures were introduced, the virus was not detected again in Asia until 2003. Since then, H5N1 has reemerged in Asia and has rapidly spread to Eurasia, Europe, the Near East, and Africa over the past six months. In total, the virus has caused over 4,100 poultry outbreaks in 25 countries[1] (resulting in the death of over 150 million birds) and infected 184 people (with 103 deaths) as of March 21, 2006[2]. Beyond the current animal and human cases, the continued evolution of the H5N1 virus has created alarm as it appears it could be on a path to becoming a pandemic virus for humans. In response, many countries, international organizations, and donors—including USAID--have begun to develop or expand programs to contain the H5N1 virus in domestic poultry populations in order to limit its economic damage, and decrease the risk of a potential human influenza pandemic.

USAID's overarching goal for avian influenza is to successfully contain the H5N1 virus within the animal population over the next 12-24 months. The Avian and Human Pandemic Influenza Strategic Guidelines presented in this document have been developed to help USAID missions and regional bureaus effectively program avian influenza (AI) funds in a consistent manner to achieve two broad objectives:

(1) strengthen capacities to rapidly detect and respond to the current AI problem in animals and humans; and

(2) begin preparing for a possible human influenza pandemic.

The activities described represent the full range of issues that should be addressed in response to the disease situation in a given country, not solely those that would be appropriate for USAID or USG support. USAID Missions can play a key role in working with the host government and in-country partners to identify and address shortcomings in each of these areas, and this guidance is intended to help missions identify gaps and program assistance effectively.

Several overarching principles guide USAID's approach to preventing and containing the spread of avian influenza. These include:

- USAID efforts will be harmonized with the technical recommendations of international organizations such as FAO, OIE, and WHO;
- USAID will use existing platforms, where available, to minimize delays in implementing programs;
- USAID will focus on prevention and control of avian influenza in both animals and humans.

[1] Source: World Organization for Animal Health (http://www.oie.int/downld/AVIAN%20INFLUENZA/A_AI-Asia.htm)

[2] Source: World Health Organization (http://www.who.int/csr/disease/avian_influenza/country/en/index.html). Note: since these are laboratory-confirmed H5N1 cases in humans that have been reported to WHO, neither suspect nor probable cases are included.

It is critical that missions work closely with UN organizations including WHO and FAO, other donors, and non-governmental organizations in-country to maximize coordination and avoid duplication. In some cases, USAID's implementing partners, especially those at the community level, may be key partners in conducting supporting activities. USAID assistance to national governments may include developing proposals for seeking funding from other donors.

USAID also plays a central role in supporting operational coordination for the USG's international emergency response to Avian Influenza, and in countries where there is a convergence of presence from several different USG agencies, close coordination and recognition of comparative advantages will be essential in ensuring successful U.S. assistance. The Department of State has led the drafting of an implementation plan that will be issued in conjunction with the President's National Strategy on Pandemic Influenza. When it becomes available, this document will include a chapter on the implementation of international assistance, outlining the roles and responsibilities of implementing agencies.

It is also clear that the H5N1 virus cannot be contained by political boundaries, and missions are encouraged to consider, in addition to in-country responses, cross-boarder and regional issues and neighboring non-presence countries. Regional platforms should be utilized and enhanced and cross-border coordination should be supported at every opportunity. The International Partnership on Avian and Pandemic Influenza announced by President Bush in 2005 provides a framework for ensuring a comprehensive and well-coordinated international response together with key nations and international organizations by:

- Elevating the issue on national agendas
- Coordinating efforts among donor and affected nations
- Mobilizing and leveraging resources
- Increasing transparency in disease reporting and surveillance
- Building capacity to identify, contain, and respond to a pandemic influenza

The activities recommended in these Guidelines are designed to either address varying disease situations in affected countries (measured by "pandemic phase"; see below) or, for currently-unaffected countries, prepare them for H5N1 importation (based on risk of outbreaks). While H5N1 is the current avian influenza threat, the Guidelines are written generically so that they would apply to any highly-pathogenic avian influenza (HPAI) virus that poses a significant threat to both human and animal health because of high mortality.

These Guidelines are divided into six phases[3] which are based on the current level of pandemic threat individual countries are facing. Phase 1 is dedicated to planning and preparedness, while phases 2 and 3 are mostly focused on monitoring and controlling the disease in bird populations since this is an appropriate approach to limit economic damage, prevent human infections, and decrease opportunities for HPAI viruses to evolve into forms that are better adapted to humans. In phases 4 through 6, the primary focus becomes monitoring and controlling HPAI (or pandemic) virus in human populations.

[3] These six phases correspond with those outlined in "World Health Organization Global Influenza Preparedness Plan", 2005 (see http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_5.pdf). See Annex 1 for a summary of the six phases.

Within each phase, specific activities for USAID support are recommended under the following program areas: (1) preparedness and planning; (2) surveillance; (3) response; and (4) communications[4]. (A summary of the six phases and four program areas is shown in Table 1.) In general, the recommended activities will help countries to respond to the current disease situation, while also preparing them for the next phase. In some cases, the recommended activities may build on or complement efforts to address other infectious diseases such as SARS.

Since the disease situation and donor support in individual countries and regions can change quickly, it is important for USAID operating units to be able to recognize these changes and adjust programming rapidly and appropriately. Likewise, it is anticipated that these Guidelines and associated documents may need to be updated periodically as the disease situation changes and new or improved interventions become available. As soon as they are available, new updates of the Guidelines and supporting documents will be shared with missions and regional bureaus.

Using These Guidelines

Steps for using these guidelines to identify appropriate activities for USAID support:

1. **Determine what phase best applies to your country (or region)** using Table 1, Annex 2A, and Annex 2B. *Note: Annex 2A and 2B will be updated as country situations change.*
2. **Identify funding sources for AI activities**. Currently, all funds are either supplemental or reprogrammed from or redirected within mission or regional bureau budgets. Note some of the activities recommended in these Guidelines require little or no funding. For budget guidance, please see Annex 6. *Note that AI Unit approval is required for any reprogramming or redirecting of funds from mission or regional bureau budgets.*
3. **Identify the types of activities that are most appropriate to support with USAID funds** by consulting the section of the Guidelines that corresponds to the phase of your country (or region). For example, Cambodia is a phase 3 country so the mission should consult the phase 3 section of the Guidelines.

   For phase 1 countries, determine the relative risk for importation of HPAI in the next year by consulting the map in Annex 3. If the risk is lower (e.g. in the Latin America and Caribbean region), activities should mostly focus on planning for a human influenza pandemic. If the risk is higher (e.g. in the Africa, Near East, and South Asia regions), activities should focus on surveillance and response related to HPAI in animals as well as preparing for a human influenza pandemic.
4. **Adapt phase-appropriate activities to your country (or regional) context.** For example, determine if the recommended activities have already been funded (locally or by other donors), if they are part of the country (or regional) AI plan, and if you have appropriate mechanisms to provide the assistance.

5. **Select appropriate indicators from USAID's Monitoring and Evaluation Plan** (see Annex 4) to measure progress/impact of activities.
6. **Determine the appropriate USAID partner(s) and in-country, regional, or centrally-managed funding mechanism(s)** for activities that have been identified in step 2 above, but are not currently funded by others. See Annex 5 for a list of mechanisms managed by USAID/Washington that missions can use to program AI funds. *Note that since most AI funding is from emergency appropriations, it is recommended that operating units use existing bilateral, regional, or central mechanisms for programming funds rather than developing new ones*. In general, USAID missions and regional bureaus should not directly provide funding for existing platforms of other USG agencies that are already receiving USG international AI funding.
7. Lastly, **identify any financial, technical, and other support such as approval for reprogramming/redirecting funds that is needed from USAID/W** (e.g. AI Unit, pillar and regional bureaus, and OFDA) to plan and implement the activities that are appropriate for your country (or region). Communicate these needs to your regional bureau representative(s) (see below).

Africa Bureau	Asia and Near East Bureau	Europe and Eurasia Bureau	Latin America and Caribbean Bureau
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Table 1: Summary of recommended USAID activities by disease phase and activity area[5]

	Preparedness Planning	Surveillance	Response	Communications
Phase 1 No HPAI[6] in animals or humans	Support assessing capabilities, needs, and vulnerabilities; coordinate in-country and external partners; support preparing and testing human pandemic and HPAI plans	Support developing a plan for conducting animal and human surveillance; support initiation of animal surveillance	Support developing a plan for containing animal and human outbreaks	Support developing a communications plan
Phase 2 HPAI in animals but not humans	Same as phase 1; support operationalizing HPAI plan	Support monitoring animal disease and link to control efforts in animals; support initiation of human surveillance	Support implementing control measures in animal populations based on surveillance data	Support activating HPAI emergency communication plan to focus on most at-risk populations, especially farmers and others working with animal
Phase 3 HPAI in animals and humans; no significant human to human spread	Same as phase 2	Support monitoring animal and human disease and link to control and treatment efforts; support increasing focus on investigating human outbreaks	Support implementing control measures in animal populations and isolation/treatment for humans based on surveillance data	Continue supporting activation of HPAI emergency communication plan and begin broadening to include affected communities
Phase 4 HPAI in animals and humans; small clusters of human to human spread	Same as phase 2	Same as phase 3	Same as phase 3; support preparation for limited activation of human pandemic plan	Same as phase 3; support beginning activation of human pandemic emergency communication plan
Phase 5 HPAI in animals and humans; larger clusters of human to human spread	Same as phase 2	Same as phase 3; primary focus is human pandemic and monitoring control measures	Same as phase 3; support beginning limited activation of human pandemic plan	Same as phase 3; support continued activation of human pandemic emergency communication plan
Phase 6 Widespread HPAI transmission among humans	Same as phase 2	Same as phase 5	Support full activation of human pandemic plan	Support full activate human pandemic emergency communication plan

[5] See sections I-VI for more detail.
[6] Highly-Pathogenic Avian Influenza virus.

Section I. Guidance for Phase 1 Countries

Country characteristics: no "new"[7] Highly-Pathogenic Avian Influenza (HPAI) virus present in either animals or humans, but such a virus is circulating in other countries. In most countries, importation of new HPAI virus would likely be seen first in wild birds and/or domestic poultry.

Overall objectives:

- Coordinate in-country and external partners;
- Support the assessment of the country's vulnerability to HPAI importation and spread among wild and domestic birds;
- Assist in assessing the capacities of the human and animal health sectors to monitor and respond to HPAI and human pandemic influenza;
- Encourage and support the country to develop and test (1) a National Avian Influenza Control Plan to monitor, prevent, and control HPAI infections in domestic poultry and humans; and (2) a National Influenza Pandemic Preparedness Plan for human disease.

Recommended USAID activities:

A. Preparedness/planning

1. **Support the creation/strengthening of in-country AI Working Groups** at the country, USG, and USAID levels if not already present. These groups should include broad representation from stakeholders, including the animal and human health sectors, poultry producers, international organizations, donors, NGOs, and other interested private sector organizations. Primary functions of the groups should include information gathering, planning, intra- and intercountry coordination, advocacy, and leadership. The AI Working Groups may be extensions of existing SARS or other infectious disease working groups.
2. **Engage AI stakeholders (e.g. government, USG, donors, international orgranizations, NGOs, etc.) in-country** to determine gaps and appropriate program areas for USAID technical and financial support to include participation as needed in assessments of country risk, capacities, and needs for HPAI control and human pandemic response, especially:
   - Status of existing national-level AI and human pandemic plans;
   - Characteristics of bird populations to include size, location, and biosecurity of domestic poultry sector, wild bird migration patterns, cockfighting, legal and illegal transport of domestic and wild birds into and out of the country, etc.;
   - Existing laws and regulations related to domestic poultry, food safety, sanitation, wildlife, tourism, animal trade, farm and market biosecurity, etc.;
   - Country capabilities (e.g. number of staff, skills, needs for training, equipment, commodities, operations, etc.) in animal health and poultry sector to rapidly detect and control HPAI outbreaks in domestic poultry;

[7] "New" refers to a HPAI virus to which the human population has not been previously exposed. As a result, people have little or no existing immunity against the virus.

- Country capabilities (e.g. number of staff, skills, needs for training, equipment, commodities, operations, etc.) in health system to respond to human HPAI cases and a human influenza pandemic;
- Systems for managing/sharing information, conducting behavior change communications, engaging media/press;
- Political, policy, legal, social, economic, or operational barriers to effective HPAI planning, surveillance, and response.
- Necessity for external budget support, capital investment, human resource development, training, etc.;
- Extent of donor participation, levels of funding, and coordination.

3. **Encourage the private sector and donors in-country to participate in human pandemic planning and HPAI control (for endemic, epidemic, and high-risk countries)** to include: technical assistance; micro-financing; capacity building; communications; incentives; compensation; and production/donation of key commodities (anti-viral, protective gear, etc.). USAID assistance may involve developing proposals for other donors to support.
4. **Assist in the development of an Influenza Pandemic Preparedness Plan for human disease** using in-country AI working groups and assessments (activities 1 and 2 above). The Plan should identify: staff; authorities; responsibilities among the different government agencies and stakeholder groups; surveillance procedures; emergency control/response strategies (including a "Command and Control" structure, a plan for continuity of essential operations, and a plan for providing surge capacity related to surveillance, response, and communications); trigger points for action; and pathways for mobilizing people, equipment, key commodities (e.g. antivirals, personal protective equipment, vaccines, etc.), and other resources in the event of a human influenza pandemic. The Plan should be developed with input from all government agencies that would be involved in an emergency response and relevant partners including international organizations, businesses, NGOs, community groups, etc. The Plan should include a package of activities (e.g. quarantine of exposed people, isolation of sick people, social distancing, limiting travel and public gathering, emergency communications, etc.) that will be used to limit the spread of pandemic influenza among humans. The Plan should include specific policies on monitoring, isolating, and treating human cases and providing available flu vaccines and/or antivirals for health staff, and other "front-line" and essential workers. The Plan should also take into account that a human pandemic virus may occur in several waves separated by weeks or months.
5. **Assist in the development of a National HPAI Control Plan to limit spread of the disease among birds and humans** (for countries likely to have importation of HPAI cases in the next year because of proximity with affected areas and direct flyways). The Plan should use in-country AI working groups and assessments (activities 1 and 2 above) and identify: staff; authorities; responsibilities among the different government agencies and stakeholder groups; surveillance procedures; emergency control/response strategies (including a "Command and Control" structure and a plan for providing surge capacity related to surveillance, response, and communications) to suppress outbreaks and limit economic and social damage; trigger points for action; and pathways for mobilization of people, equipment, key commodities (e.g. antiviral medicines, personal protective equipment, vaccines, etc.), and other resources once HPAI is present in the country. The

Plan should be developed with input from all government agencies that would be involved in an emergency response and relevant partners including international organizations, businesses, NGOs, community groups, and other interested parties (e.g. wildlife management, tourism, food processing and marketing, trade, health, etc.). The Plan should include a package of activities (e.g. culling, biosafety, vaccination, compensation, incentives, emergency communications, etc.) that will be used to contain HPAI in domestic poultry. The Plan should include specific policies on monitoring, isolating, and treating human cases and providing available flu vaccines and/or antiviral medicines for domestic poultry workers, health staff, and other "front-line" workers. Specific guidance is provided in the following documents: Avian Influenza Control and Eradication: FAO's Proposal for a Global Programme[8]; A Global Strategy for the Progressive Control of Highly Pathogenic Avian Influenza (HPAI)[9]; Prevention and Control of AI in Small Scale Poultry: A Guide for Veterinary Paraprofessionals in Vietnam[10].

6. **Support the testing of the National Influenza Pandemic Preparedness Plan and National HPAI Control Plan (if appropriate)** via table-top exercises/simulations. Testing should involve all relevant in-country partners, including international organizations such as WHO and FAO, and could coincide with other countries in the region testing their plans. The plans should subsequently be modified as needed based on any problems identified during the testing.
7. **Assist in developing/adapting/disseminating of nationally-approved guidelines** to address food safety[11], safe agriculture practices and public health issues/behaviors (e.g. bio-safety and bio-security measures, handwashing and hygiene) related to HPAI and human pandemic influenza.

B.1. Surveillance (animal)

For countries likely to have importation of HPAI cases in the next year because of proximity with affected areas and direct flyways:

1. **Ensure that the country has guidelines/recommendations for surveillance procedures** from FAO/OIE[12] and USDA that can be used by veterinary authorities in ministries that cover agriculture and wild animals. The guidelines/recommendations should be used to develop a country-specific HPAI surveillance system for wild birds, domestic poultry farms, wet markets, etc.
2. **Support the development or expansion of a HPAI Surveillance System for domestic poultry, wild birds, wet markets, etc.** based on the National HPAI Control Plan and international guidelines/recommendations. The surveillance system should identify:

[8] http://www.fao.org/ag/againfo/subjects/documents/ai/Global_Programme_Jan06.pdf
[9] http://www.fao.org/ag/againfo/subjects/documents/ai/HPAIGlobalStrategy31Oct05.pdf
[10] http://www.fao.org/ag/againfo/subjects/documents/ai/AIManual_VN2005(en).pdf.
[11] FAO and WHO guidelines on Highly pathogenic H5N1 avian influenza outbreaks in poultry and in humans: Food safety implications are available at http://www.fao.org/ag/againfo/subjects/documents/ai/Foodsafety.pdf.
[12] FAO/OIE guidelines for containment of avian influenza are available at http://www.fao.org/ag/againfo/subjects/en/health/diseases-cards/Guiding%20principles.pdf; A FAO/OIE manual for diagnosis of AI is available at http://www.oie.int/eng/normes/mmanual/a_00037.htm; OIE/FAO guidelines for correct application and interpretation of diagnostic results for the diagnosis of AI on serum samples are available at http://www.offlu.net/Portals/0/AIGUIDELINES.pdf.

a. standard procedures for sample collection, transport, and storage;
b. standard diagnostics, reagents (including sources), shipping containers, and lab facilities (national or regional) to be used for HPAI detection/confirmation;
c. processes and procedures for collecting information and sharing it at all levels and with all stakeholders;
d. lines of responsibility, including regular communications;
e. mechanisms for linking to human surveillance and response systems for containment of animal and human outbreaks;
f. mechanisms for providing compensation for bird owners as an incentive for them to keep reporting sick/dead animals;
g. priorities for operations research related to surveillance or disease transmission among animals; and
h. identification and training of "surveillance surge teams" that can be available as needed to provide additional capacity during outbreaks.

3. **Work with the host government, other USG, international organizations, donors, etc. to determine the country's immediate requirement for Personal Protective Equipment (PPE), disinfectant, and shipping containers** based on need and supplies already available in country. See Annex 7 for a worksheet on estimating PPE needs.
4. **Support the development of a HPAI Surveillance/Diagnostic Training Manual** to be used by personnel with different responsibilities related to HPAI surveillance/diagnosis and provide training for surveillance and lab staff, animal workers (and human health if appropriate), and communications specialists at the central, provincial, and district level as needed.
5. **Support the initiation/expansion of surveillance of wild birds, domestic poultry farms, wet markets, etc. in high-risk areas**[13] to include official networks (public and private) and unofficial ones that include community members (e.g. wildlife managers, farmers, local government authorities, etc.) and NGOs.

B.2. Surveillance (human)

1. **Ensure that the country has guidelines/recommendations for surveillance procedures** from WHO[14] and CDC that can be used by the Ministry of Health to develop/expand a country-specific surveillance system for HPAI and pandemic influenza in humans.
2. **Encourage the review of human inter-pandemic influenza surveillance** including the following:
   a. Surveillance data to assess the seasonal burden of influenza in order to identify abnormal clusters of disease that could be HPAI
   b. Adequate funding available to support national influenza surveillance
   c. Adequate numbers of trained personnel for human inter-pandemic surveillance
   d. Adequate system for the collection and transport of laboratory specimens in a timely manner

[13] Areas with migratory birds and/or areas with poor poultry biosecurity.
[14] WHO guidelines for global surveillance of influenza A/H5 are available at http://www.who.int/csr/disease/avian_influenza/guidelines/globalsurveillance/en/index.html.

e. Laboratories which can conduct the examination of specimens using approved testing procedures
f. Procedures are in place to share virus isolates with the appropriate international agencies, such as WHO. FAO, and OIE.

3. **Support the development or expansion of a HPAI Surveillance System for humans** based on the National HPAI Control Plan, the Influenza Pandemic Preparedness Plan, and international guidelines/recommendations to look for possible HPAI outbreaks in humans. The surveillance system should:
   a. Identify high risk populations, such as domestic poultry workers, meat handlers, small domestic poultry farmers, animal traders, etc.
   b. Establish trigger events for investigation, such as unexplained clusters of acute respiratory infections, unexplained illness in domestic poultry handlers, etc.
   c. Ensure the availability of investigation teams that can conduct epidemiological investigations of trigger events.
   d. Ensure the availability of resources to support epidemiological investigations
   e. Identify and train "sureveillance surge teams" that can be available as needed to provide additional capacity for outbreaks.
4. **Work with the host government, other USG, international organizations, donors, etc. to determine the country's immediate requirement for PPE and shipping containers** based on need and supplies already available in country. See Annex 7 for a worksheet on estimating PPE needs.

C.1. Response (animal)

For USAID mission in countries likely to have importation of HPAI cases in the next year because of proximity with affected areas and direct flyways:

1. **Ensure that the country has guidelines/recommendations for control of HPAI in animals** from FAO/OIE[15] and USDA[16] that can be used by veterinary authorities in the Ministry of Agriculture to develop a country-specific response system for preventing and containing HPAI outbreaks in domestic poultry.
2. **Support the development of an HPAI Response System for domestic poultry** based on the National HPAI Control Plan and international guidelines/recommendations that identifies:
   a. standard reporting procedures and triggers for action.
   b. lines of responsibility, including regular communications.
   c. standard operating procedures for culling infected and exposed poultry, vaccinating poultry near outbreaks, and disposing of birds culled or killed by HPAI.
   d. mechanisms for linking to surveillance systems.

[15] FAO guidelines for containment of avian influenza are available at http://www.fao.org/ag/againfo/subjects/en/health/diseases-cards/Guiding%20principles.pdf; FAO/ OIE/ WHO guidelines for control of avian influenza are available at http://www.oie.int/downld/AVIAN%20INFLUENZA/avian_rome_feb04_report.pdf; FAO proposal for the Control and Eradication of Avian Influenza is available at http://www.fao.org/ag/againfo/subjects/documents/ai/Global_Programme_Jan06.pdf; OIE Contingency Manual for Avian Influenza is available at http://www.oie.int/downld/AVIAN%20INFLUENZA/ManualeENG_ilaria%20capua.pdf.

[16] USDA tips on biosecurity are available at http://www.aphis.usda.gov/vs/birdbiosecurity/tips.html.

e. funding, incentives, and compensation for small-holding farmers for domestic poultry killed by HPAI and those culled to contain outbreaks; and
f. means for evaluating the effectiveness of containment interventions.

3. **Support the development of a HPAI Response Training Manual** with standard operating procedures for personnel with different responsibilities related to HPAI containment in domestic poultry. Assist in assembling and providing training for Rapid Response Teams that can be deployed at the first signs of HPAI outbreaks or confirmation of HPAI cases in animals.
4. **Assist in conducting mock HPAI outbreaks to test control and command organization and field response procedures.** Any identified gaps should be addressed by updating the National HPAI Control Plan.
5. **Work with the host government, other USG, international organizations, donors, etc. to determine the operating costs and commodity needs for controlling HPAI outbreaks among domestic poultry**[17]. If international and regional stockpiles of HPAI commodities are not accessible or sufficient for country needs, assist the country in determining what commodities it should stockpile, the source and cost for these items, where to position the stockpile, and how and when to deploy it. For estimating PPE needs, see Annex 7.
6. **Support the identification and training of "response surge teams"** that can be available as needed to provide additional capacity for outbreaks.

C.2. Response (human)

1. **Ensure that the country has guidelines/recommendations for the treatment and prevention of HPAI in humans** from WHO[18] and CDC[19] that can be used by health authorities in the Ministry of Health to develop a country-specific response system.
2. **Work with the host government, other USG, international organizations, donors, etc. to determine operating costs and commodity needs for treating and isolating HPAI cases in humans and quarantining potentially-exposed persons**[20]. If international and regional stockpiles of HPAI and human pandemic influenza commodities are not accessible or sufficient for country needs, assist the country in determining what commodities it should stockpile, the source and cost for these items, where to position the stockpile, and how and when to deploy it. For estimating PPE needs, see Annex 7.
3. **Support the development of a HPAI Response System for humans** based on the National HPAI Control Plan and international guidelines/recommendations that identifies: (a) standard reporting procedures and triggers for action; (b) lines of responsibility, including regular communications; (c) standard operating procedures for

[17] May include logistical support (e.g. vehicles, fuel, communications equipment, etc.) and supplies such as PPE, waste disposal bags, vaccines for domestic poultry, disinfectant, etc. to be used by trained response teams. See Annex 7 for estimating PPE needs.
[18] WHO Interim Infection Control Guidelines for avian influenza are available at http://www.who.int/csr/disease/avian_influenza/guidelines/Guidelines_for_health_care_facilities.pdf.
[19] CDC recommendations for the prevention of avian influenza infection in health workers are available at http://www.cdc.gov/flu/avian/professional/infect-control.htm.
[20] May include logistical support (e.g. vehicles, fuel, communications equipment, etc.) and supplies such as PPE, antiviral medications, disinfectant, etc. to be used by trained response teams. See Annex 6 for estimating PPE needs.

diagnosing, isolating, and treating patients; (d) mechanisms for linking to surveillance systems; (e) key laboratories and health facilities that will be used for diagnosis, treatment, and isolation of human cases; (f) and available funding for the response system. *Note: these activities may build on the systems previously developed for SARS.*

4. **Support the training of staff at key facilities and local health-care personnel who will work with any human cases** to: identify suspect cases; collect and send samples for laboratory confirmation; report suspect patients to public health authorities; manage cases of laboratory-confirmed and suspect cases; ensure appropriate infection control. See Annex 7 for estimating PPE needs for health facilities.
5. **Support the development of a HPAI Response Training Manual** with standard operating procedures for personnel with different responsibilities related to HPAI treatment and isolation for humans. Support the assembly and provide training for Rapid Response Teams that can be deployed at the first signs of HPAI outbreaks or confirmation of HPAI cases in humans.
6. **Support the conducting of mock HPAI outbreaks to test control and command organization and field response procedures.** Identify gaps and make any necessary changes in National HPAI Control Plan and the National Influenza Pandemic Plan.
7. **Support the identification and training of "response surge teams"** that can be available as needed to provide additional capacity for outbreak containment.

For USAID missions in countries likely to have importation of HPAI cases in the next year because of proximity with affected areas and direct flyways, consider starting the human response activities listed in Section 2.

D. Communications

1. **Support the development and testing of a HPAI and a Human Influenza Pandemic Emergency Communications Plans** based on input from animal and health authorities, other government agencies, international and national partners, the domestic poultry sector (e.g. input suppliers, producers, and processors), the media, and the public, especially for hard-to-reach rural, ethnic or non-literate populations. Use preparedness exercises (tabletop exercises at national, regional and local levels if possible) to refine and improve plans. Plan and test capacity to provide information to diverse audiences (including professional/technical, mass and interpersonal media, other key partners and the general public) during a human influenza pandemic to ensure communications infrastructure is adequate.
2. **Assist in the development/strengthening of mechanisms for routine and emergency communications** using media as well as public and private systems for conveying animal and human health messages.
3. **Encourage the development of a clear communication command structure** and identify key people and their responsibilities and provide training related to HPAI control or a human influenza pandemic. Support the identification and training of "communications surge teams" that can be available as soon as the HPAI or Human Pandemic Emergency Communications Plans are activated.
4. **Support the development of national risk-communications and behavior change strategies related to HPAI and human influenza pandemic** for government and other key partners including the public to promote healthy behaviors using messages with

simple and clear actions that can be taken. Messages should include: factual information on current disease situation elsewhere and likelihood of importation; advice on how to limit exposure; and lessons learned from experience to date.

5. **Support the establishment (or adaptation) of rapid communications systems** to answer questions from veterinarians, health care providers, and the public.
6. **Support the rapid sharing of appropriate technical information** among animal and human health authorities, international organization, other key partners and the public.
7. **Begin encouraging national governments to provide free air time** for AI messages.
8. **Support the design and conducting of baseline studies on knowledge, attitudes, practices, and behaviors** for farmers, animal and human health staff, workers in animal markets, and the public.
9. **Provide technical assistance to facilitate targeted risk communications and behavior change communications** related to HPAI in animal and humans as well as a human influenza pandemic. This should be done using a phased national communications strategy that segments audiences (e.g. including professional/technical staff, mass and interpersonal media, other key partners, the general public, etc.) and targets farmers, agriculture extension workers, health care providers and others through interpersonal communications, organizational and community networks, mass media, public relations and political advocacy.
10. **Encourage the government to establish a formal and collaborative working relationship with news/mass media** regarding epidemic response information, including the clear delineation of roles, responsibilities and operating practices of animal, public health and other first-line responders.
11. **Support the initiation of targeted communications with HPAI and human pandemic stakeholders** such as government agencies, producers, feed millers and retailers, transporters, market managers, consumers, restaurants, etc. on the status of HPAI (e.g. H5N1) in the world and risk to their country.

Note: USAID missions in countries unlikely to have importation of HPAI cases in the next year because of distance from affected areas and indirect flyways should focus their communications activities on the aspects related to a human influenza pandemic. However, some small investments in messages related to identification, reporting, proper handling, and disposal of sick/dead birds may also be prudent.

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Section II. Guidance for Phase 2 Countries

Country characteristics: new[21] HPAI virus detected in animals, but not humans.

Overall objectives:

- Support monitoring of HPAI virus in animal populations and aggressively limiting transmission in domestic poultry;
- Support the initiation of monitoring for HPAI infections in high-risk human populations;
- Support the finalization of HPAI Control Plan and Influenza Pandemic Preparedness Plan if needed;
- Support monitoring the effectiveness of control measures;
- Support the expansion of communications activities to educate public, agriculture and health staff, and policymakers;
- Encourage and support sharing surveillance data and viral samples with other countries and international influenza experts.

Recommended USAID activities:

For countries moving from Phase 1 to Phase 2, see Annex 8 for priority activities during the first two weeks.

Note: if the mission and other in-country AI working group partners (including other USG agencies, FAO, WHO, and host-government counterparts) determine that emergency assistance such as non-medical commodities and technical assistance is needed when the country goes from Phase 1 to Phase 2, please contact your regional bureau representative(s).

A. Preparedness/planning

1. **Support the completion of the National HPAI Control Plan** started in Phase 1 and conduct testing if not already done. Support the modification of the plan as needed.
2. **Support making the National HPAI Control Plan operational** to include:
   a. strengthening operational collaboration between human and animal sectors;
   b. mobilizing additional staff and resources;
   c. planning for expansion of activities if there is a surge in cases or geographical spread;
   d. identifying remaining obstacles/gaps to effective HPAI control including any key commodities needed for effective routine response to contain animal outbreaks.

B.1. Surveillance (animal)

Note: if emergency supplies of PPE or shipping containers are needed for initial surveillance, contact the AI Unit or your regional bureau representative(s) in USAID/Washington to request these supplies from the OFDA-managed stockpile.

[21] New refers to a HPAI virus to which the human population has not been previously exposed. As a result, people have little or no existing immunity against the virus.

1. **Support the completion of the activities started in phase 1 and the expansion of surveillance of wild birds, domestic poultry farms, wet markets, etc**. throughout the country especially at the peripheral level where small farms with poor biosecurity are located. Active surveillance at the community level should include official networks and unofficial ones that involve wildlife managers, farmers, local government authorities, NGOs, etc.
2. **Support the further refinement and increased specificity of the surveillance system** to limit further exposure and detect and respond to cases as soon as possible. Areas that need attention include the following:
   a. Reducing the time from exposure to outbreak detection to one week.
   b. Reducing the time for laboratory confirmation to one week after outbreak detection.
   c. Refining the national HPAI case definition in conformance with FAO/OIE recommendations.
   d. Establishing procedures for the rapid sharing of viral isolates and epidemiological investigation results with all relevant international agencies.
   e. Collaborating with international efforts to assess virus pathogenicity in animals.
3. **Support the collection and testing of samples in areas where bird deaths have occurred.** Rapid field tests may be appropriate for initial screening, but samples should also be sent to qualified national or regional laboratories (including OIE[22] designated reference labs).
4. **Encourage and support the continued sharing of viral isolates** with all international agencies for the refinement of diagnostic reagents and vaccine development.
5. **Encourage and support collaboration among wildlife specialists in government ministries, NGOs, bird watching clubs, other organizations** to monitor locations and movements of wild birds that may be infected with HPAI.
6. **Support research to identify primary modes of HPAI transmission among birds and risk factors as well as evaluation of the effectiveness of interventions** to control HPAI spread.
7. **Support the activation of surveillance surge teams as needed**.

B.2. Surveillance (human)

Note: if emergency supplies of PPE or shipping containers are needed for initial surveillance, contact the AI Unit or your regional bureau representative(s) in USAID/Washington to request these supplies from the OFDA-managed stockpile.

1. **Support the completion of any unfinished activities from Phase 1.**
2. **Support the activation and enhancement of the early warning surveillance system for HPAI in humans**
   a. Identify the nature of enhanced surveillance and the flow of information. This may include assessing the value of the following approaches:

[22] A list of OIE reference experts and laboratories can be found at http://www.oie.int/eng/oie/organisation/en_listeLR.htm (see HPAI).

i. Active surveillance
ii. Enhanced sentinel surveillance
iii. Expanded reporting of acute respiratory infections from all sources

b. Use guidance from WHO and CDC to develop a standard case definition for surveillance of HPAI cases in humans[23].
c. Identify and monitor (including serological surveillance if appropriate and possible based on capacity and finances) specific risk groups, such as:
   i. Travelers from infected regions or countries who have had contact with: sick poultry or wild birds; raw or undercooked poultry products
   ii. People in contact with materials which may contain HPAI virus to include farmers, cullers, veterinarians, laboratory staff, health care workers, laboratory workers, mortuary room workers, and others handling samples or materials containing HPAI virus.
d. Transmit all HPAI viral isolates to WHO and OIE[24] designated reference laboratories.
e. Conduct epidemiological investigations of all suspected cases
f. Improve the capacity for virological surveillance in national laboratories according to standard procedures

3. **Support the strengthening of laboratory capacity** for identification and handling of specimens
   a. Improve biosafety procedures.
   b. Continue to share viral isolates with all international agencies for the refinement of diagnostic reagents and vaccine development.
   c. Improve the communications channels with WHO and national laboratories to ensure accuracy of testing.
   d. Provide material support as needed to national laboratories.
4. **Support the activation of surveillance surge teams as needed**.

C.1. Response (animal)

Note: if emergency supplies of PPE or disinfectant are needed for initial response, contact the AI Unit or your regional bureau representative(s) in USAID/Washington to request these supplies from the OFDA-managed stockpile.

1. **Support the completion of any unfinished activities from phase 1**.
2. **Support the deployment of Rapid Response Teams** to sites where there have been reports of bird deaths (wild and domestic poultry), confirmed HPAI cases in birds or other animals, or confirmed HPAI cases in humans. Activities may include:
   a. Collecting and transporting samples from dead, dying, and exposed birds (wild and domestic poultry) quickly to labs for processing, either for in-country typing or rapid transfer to reference labs outside the country;
   b. Properly disposing of any dead birds (wild and domestic poultry);

[23] World Health Organization case definition for A/H5 infections is available at http://www.who.int/csr/disease/avian_influenza/guidelines/Guidelines_for_health_care_facilities.pdf (section 1-4).
[24] A list of OIE reference experts and laboratories can be found at http://www.oie.int/eng/oie/organisation/en_listeLR.htm (see HPAI).

c. Based on the National HPAI Control Plan, implementing containment measures *in domestic poultry only*[25] such as culling, vaccination, improving biosecurity, controlling foot transit and vehicle movement in/out of affected areas, and disinfecting transportation equipment, people, domestic poultry, etc. moving in and out of affected areas.

3. **Support and assist in the communication of findings to Command and Control center** authorities.
4. **Support the adaptation of interventions as needed to improve effectiveness** of prevention and containment efforts based on properties of the HPAI virus.
5. **Support evaluating the effectiveness of control interventions to limit outbreaks in domestic poultry** based on actual response efforts in-country and make any improvement needed.
6. **Assist in addressing compensation and possible stigma issues** for individuals or populations in contact with animals infected with or exposed to HPAI.
7. **Support the activation of response surge teams as needed**.

C.2. Response (human)

Note: if emergency supplies of PPE or disinfectant are needed for initial response, contact the AI Unit or your regional bureau representative(s) *in USAID/Washington to request these supplies from the OFDA-managed stockpile.*

1. **Support the completion of any unfinished activities from Phase 1.**
2. **Support the deployment of Rapid Response Teams** to sites where there have been reports of bird deaths (wild and domestic poultry), confirmed HPAI cases in birds or other animals, or confirmed HPAI cases in humans. Activities may include:
    a. Collecting and quickly transporting samples from people exposed to dead or sick animals to labs for processing, either for in-country typing or rapid transfer to reference labs outside the country;
    b. Based on the National HPAI Control Plan and the National Influenza Pandemic Plan, initiate isolation and treatment of sick people or quarantine potentially exposed people.
3. **Support and assist in the communication of findings to Command and Control center** authorities.
4. **Support the adaptation of interventions as needed to improve effectiveness** of prevention and containment efforts based on properties of the HPAI virus.
5. **Support evaluating the effectiveness of control interventions to limit outbreaks in humans** based on actual response efforts in-country and make any improvement needed.
6. **Assist in addressing possible stigma issues** for individuals or populations in contact with animals or people infected with or exposed to HPAI.
7. **Support the activation of response surge teams as needed**.

D. Communications

[25] FAO and OIE do not recommend culling or vaccinating wild birds as containment measures for HPAI.

1. **Assist in the acquisition of guidelines/recommendations and technical information related to HPAI** from WHO, CDC, FAO/OIE, and USDA that can be used by authorities in the Ministries of Agriculture and Health to develop a country-specific messages related to the current HPAI situation, appropriate practices, and needed behavior changes. The technical information should be shared with media and other groups involved in information dissemination, especially at the community level.
2. **Support the application of effective social marketing and social mobilization techniques** to address barriers to behavior change and promote incentives to behavior change.
3. **Support the identification and engagement of in-country communications expertise and monitoring of communications strategies** (example: establishment of HPAI Communications advisory committee, which includes lay members).
4. **Assist in ensuring that messages correspond to commodities** (vaccine, PPE, etc.) availability and access to avoid creating demand without being able to provide the service.
5. **Support the development of rapid feedback mechanisms to measure public knowledge levels, public concerns, and practices** and quickly address rumors and correct misinformation.
6. **Support the initial activation of the HPAI Emergency Communications Plan and associated "communications surge teams"**.
7. **Assist in ensuring that essential communications gear and equipment are available in-country**. Communications equipment should be emergency-capable (e.g. satellite phones for remote areas, two-way radios, etc.).

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Section III. Guidance for Phase 3 Countries[26]

Country characteristics: new[27] HPAI virus detected in animals and humans, but there is no sustained human-to human transmission (although occasional cases of one human infecting only one other may occur). The virus is not well adapted to humans.

Overall objectives:

- Support monitoring of HPAI virus in animal populations and aggressively limiting transmission in domestic poultry;
- Support strengthening surveillance for human cases to include active case finding among high-risk groups;
- Support the isolation and treatment of confirmed and suspect cases in humans;
- Support monitoring the effectiveness of control measures;
- Support the expansion of communications activities to educate public, high-risk groups, and policymakers;
- Encourage and support the sharing of surveillance data and viral samples with other countries and international influenza experts.

Recommended USAID activities:

For countries moving directly from Phase 1 to Phase 3, see Annex 8 for priority activities during the first two weeks.

Note: if the mission and other in-country AI working group partners (including other USG agencies, FAO, WHO, and host-government counterparts) determine that emergency assistance such as non-medical commodities and technical assistance is needed when the country goes from Phase 2 to Phase 3, please contact your regional bureau representative(s).

A. Preparedness/planning

1. **Support the completion of any unfinished activities from phases 1 and 2.**

B.1. Surveillance (animal)

1. **Support the completion of any unfinished activities from phases 1 and 2**.
2. **Support the strengthening/expansion of animal surveillance** to monitor vaccination programs, evolution of the virus, and effectiveness of interventions.
3. **Encourage and support the continued sharing of viral isolates** with all international agencies for the refinement of diagnostic reagents and vaccine development.
4. **Support the activation of surveillance surge teams as needed**.

[26] Phase 3 countries such as Indonesia, Thailand, and Vietnam experiencing very limited human to human transmission (i.e. one cycle of transmission but none further) should also consider starting some/all activities in Section IV.

[27] New refers to a HPAI virus to which the human population has not been previously exposed. As a result, people have little or no existing immunity against the virus.

B.2. Surveillance (human)

1. **Support the further refinement and increased specificity of the surveillance system** to limit further exposure and detect and respond to cases as soon as possible. Areas that may need attention include the following:
   a. Reducing the time from exposure to detection to one week.
   b. Reducing the time for laboratory confirmation to one week after detection.
   c. Ensuring that the country is in compliance with the International Health Regulations.
   d. Conducting epidemiological investigations on every case.
   e. Refining the national HPAI case definition for humans to conform with WHO recommendations.
   f. Establishing procedures for the rapid sharing of viral isolates and epidemiological investigation results with all relevant international agencies.
   g. Implementing routine active case detection procedures by constant surveillance of high-risk groups (e.g. health and veterinary staff, farmers, and contacts of human cases, etc.).
   h. Conducting occasional seroprevalence studies in risk groups and general population (if appropriate and possible based on capacity and finances) to include:
      i. Travelers from infected regions or countries who have had contact with sick animals (e.g. poultry or wild birds) or raw/undercooked poultry products.
      ii. Farmers, cullers, veterinarians, laboratory staff, health care workers, mortuary room workers, and other who may be in contact with animals, people, or materials containing HPAI virus.
   i. Collaborating with international efforts to assess virus pathogenicity in humans
2. **Support monitoring the spread of HPAI virus and the properties of the virus** to prioritize prevention and containment interventions.
3. **Encourage and support the continued sharing of viral isolates** with all international agencies for the refinement of diagnostic reagents and vaccine development.
4. **Support research to identify primary modes of HPAI transmission from birds to humans and risk factors**.
5. **Support the activation of surveillance surge teams as needed**.

C.1. Response (animal)

1. **Support the completion of any unfinished activities from phases 1 and 2**.
2. **Continue to support the response to outbreaks among wild birds and domestic poultry** as outlined in Phase 2.
3. **Continue to support the evaluation of the effectiveness of interventions** to control outbreaks in domestic poultry.
4. **Support the activation of response surge teams as needed**.

C.2. Response (human)

1. **Support the completion of any unfinished activities from Phases 1 and 2.**
2. **Support the implementation of guidelines to isolate cases and control infections**, including use of protective equipment.

3. **Support the deployment of rapid response teams** to conduct outbreak investigations, identify contacts and suspect cases, collect an submit samples, provide training as needed, and deliver PPE, medicines, and medical equipment.
4. **Support the initiation of local containment measures** including disinfection, quarantine/isolation, infection control procedures in health facilities, and providing antiviral medications to key health-care workers as needed.
5. **Support the adaptation of interventions as needed to improve effectiveness** of prevention and containment efforts based on properties of the HPAI virus.
6. **Support evaluating the effectiveness of interventions to limit human cases** based on actual response efforts in-country and make any needed improvements.
7. **Support the review of country surge capacity and activate response surge teams as needed.**

D. Communications

1. **Support the completion of any unfinished activities from phases 1 and 2.**
2. **Continue supporting the activation of the HPAI Emergency Communications Plan and associated "communications surge teams"** to include:
    a. Activating community-level bodies for communication/behavior change
    b. National, regional and local authorities assuming visible lead for rapid, transparent, coordinated and consistent public communications in their jurisdictions.
        i. Update information materials for news media, general public, first line responders (vets/agriculture/health) and policy-makers frequently.
        ii. Ensure tighter sharing of appropriate information among vet/agriculture/health authorities, other partners and the public.
        iii. Provide regular updates to international partners/authorities on evolving provincial/local situations.
        iv. Revisit communications strategy to ensure messages are correctly targeted and materials are appropriate to the audience.
        v. Provide range of accessible education resources to animal/health professionals and the public.
        vi. Intensify dissemination of risk/behavior change messages with compensation/ incentive motivation.
        vii. Intensify mass and interpersonal communications that aim to shift social norms (if necessary).
        viii. Address issues of stigma if necessary;
        ix. Conduct rapid assessments to determine knowledge, attitudes, and practices of health care staff and people at community level.

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Section IV. Guidance for Phase 4 Countries

Country characteristics: presence of small, localized clusters of human cases involving a new[28] HPAI virus, but human-to-human transmission is limited. The virus is becoming better adapted to humans, but transmission is still inefficient.

Overall objectives:

- Support the monitoring of HPAI virus in animal populations and aggressive efforts to limit transmission in domestic poultry;
- Assist in strengthening surveillance for human cases to include active case finding among high-risk groups;
- Support effort to isolate confirmed and suspect cases in humans as well as close contacts and provide treatment or prophylaxis as appropriate to prevent a potential human pandemic;
- Support monitoring the effectiveness of control measures;
- Assist in expanding communications activities to educate general public, high-risk groups, and policymakers;
- Encourage and support the sharing of surveillance data and viral samples with other countries and international influenza experts.
- Support the preparation for limited activation of non-biomedical measures (e.g. social distancing).

Recommended USAID activities[29]:

Note: if the mission and other in-country AI working group partners (including other USG agencies, FAO, WHO, and host-government counterparts) determine that emergency assistance such as non-medical commodities and technical assistance is needed when the country goes from Phase 3 to Phase 4, please contact your regional bureau representative(s).

A. Preparedness/planning

1. **Support the completion of any unfinished activities from phases 1 and 2.**

B.1. Surveillance (animal)

1. **Continue to support activities outlined in phase 3**.

B.2. Surveillance (human)

1. **Support further strengthening surveillance system** to detect new clusters, identify risk factors, and assess the threat to human health. Continue focus on the areas outlined in phase 3 with special attention to the following:
   a. Conducting epidemiological investigations of every case and the rapid release of the reports to all concerned national and international agencies.

[28] New refers to a HPAI virus to which the human population has not been previously exposed. As a result, people have little or no existing immunity against the virus.
[29] It is assumed that US Government and/or international teams and resources will be mobilized to any country reaching Phase 4.

b. Review and refine the case definition as information warrants.
c. Provide special attention to cases of possible human-to-human transmission.
d. Conduct studies to optimize treatment protocols.
e. Forecast and map the possible spread of the infection within the country.
f. Enhance the surge capacity of the surveillance system to allow for increasing numbers of investigations.
g. Maintain open channels of communication inside and outside of the country.

2. **Support efforts to maintain sufficient laboratory capacity** in the country to account for the possible heavy demand on its services. This includes:
   a. Ensuring quality of diagnosis.
   b. Maintaining adequate resources and supplies.
   c. Provide external support when needed.
   d. Anticipate the laboratory being overwhelmed by the volume of demand.
3. **Encourage and support the continued sharing of viral isolates** with all international agencies for the refinement of diagnostic reagents and vaccine development.

C.1. Response (animal)

1. **Same as phase 3**.

C.2. Response (human)

1. **Same as phase 3**.
2. **Assist in identifying in-country and international resources (staff, funds, etc.) that can be diverted if necessary from non-essential functions to those that are essential.** For example, focus on delivering basic services especially health care.
3. **Support the preparation for limited activation of human pandemic plan** to include:
   a. Activating mechanisms to rapidly expand capacity and alternative health care arrangements in preparation of potential human pandemic.
   b. begin limited mobilization of biomedical supplies (e.g. PPE, human vaccines if available, antiviral medicines) available in national, regional, or international stockpiles to affected areas for essential personnel identified in the National Influenza Pandemic Preparedness Plan.
4. **Support efforts to minimize viral spread** within affected area(s).

D. Communications

1. **Support the initial activation of the Human Pandemic Emergency Communications Plans and associated "communications surge teams"**.
2. **Support the establishment of a dedicated media conference room (central level) and the initiation of intensified, rapid (daily or twice daily) information sharing**, particularly on epidemiological situation and disease characteristics, with health authorities, care-providers, other relevant authorities and the public.
3. **Support communications to prepare the public for possible rapid disease progression and expected contingency measures**, including rationale of decisions or trip wires.
4. **Support the intensification of key messages** emphasizing infection control measures (e.g. social distancing through closing of schools, workplaces, and markers) in the

community and clinic settings to limit human-to-human transmission and other community and family instructions on self-protection (e.g. home care if health facilities are closed) while ensuring coordination and consistent messages through all communication partners.

5. **Support the initiation/expansion of capacities for sharing information**, e.g. teleconferencing, e-mail, phone including toll-free lines, websites

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Section V. Guidance for Phase 5 Countries

Country characteristics: presence of large clusters of human cases involving a new[30] HPAI virus, but sustained human-to-human transmission is still localized. The virus is better adapted to humans, but not fully transmissible yet. (Phase 5 likely represents the last chance for massive interventions to delay or contain spread.) *Note: it is possible that other neighboring countries may also be in Phase 5 which may have an impact on how much international support is available to your country.*

Overall objectives:

- Continue supporting active case finding among high-risk groups of people in order to locate and isolate confirmed and suspect cases in humans as well as close contacts and provide treatment or prophylaxis as appropriate to prevent further spread of a potential human pandemic virus;
- Support monitoring the effectiveness of control measures;
- Support the increase in communications activities to general public and messages related to the human pandemic;
- Support the sharing of surveillance data and viral samples with other countries and international influenza experts;
- Encourage and support the mobilization/activation of biomedical and non-biomedical measures (e.g. social distancing) in areas where human to human transmission is occurring.

Recommended USAID activities[31]:

Note: if the mission and other in-country AI working group partners (including other USG agencies, FAO, WHO, and host-government counterparts) determine that emergency assistance such as non-medical commodities and technical assistance is needed when the country goes from Phase 4 to Phase 5, please contact your regional bureau representative(s) and OFDA.

A. Preparedness/planning

1. **Support the completion of any unfinished activities from phases 1 and 2**.

B.1. Surveillance (animal)

1. **Continue supporting activities outlined in phase 3**.

Note: As the number of human cases increases and a human pandemic gets closer, it is likely that staff and resources may be diverted away from monitoring HPAI in animals.

B.2. Surveillance (human)

[30] New refers to a HPAI virus to which the human population has not been previously exposed. As a result, people have little or no existing immunity against the virus.

[31] It is assumed that USAID staff and resources will still be available in-country and will support the country's response. It is also anticipated that USAID's Office of Foreign Disaster Assistance will launch a Disaster Assistance Response Team once Phase 5 is reached. Other international teams may also be mobilized.

1. **Continue supporting activities from previous phases** with even greater urgency as phase 4 marks the transition from a threat to a reality of a human pandemic. Surveillance becomes urgent and the demand to detect and investigate a growing number of cases will soon overwhelm its capacity to respond. Enhanced surveillance may include the following:
   a. Tracking and reporting on the spread of the infection in order to guide the deployment of medicines and health care resources.
   b. Monitoring the development of antiviral resistance.
   c. Monitoring the disease in first responder groups to determine the ability to respond to a human pandemic.
   d. Monitoring isolation and quarantine procedures to determine their effectiveness.
   e. Investigating cluster of infection to track the possibility of human-to-human spread.
   f. Collecting and sharing viral isolates from infected individuals, especially those suspected of infection from a pandemic strain of the virus.
   g. Sharing all information within the country and with international agencies.
2. **Continue providing support to laboratories** as demand for services increases.
3. **Continue providing support for the sharing of HPAI viral isolates** to allow for monitoring viral evolution and development of vaccine strains.

C.1. Response (animal)

1. **Same as phase 3.**

As the number of human cases increases and a human pandemic gets closer, it is likely that staff and resources may be diverted away from controlling HPAI in animals.

C.2. Response (human)

1. **Continue supporting activities in phase 4**, including their wider application.
2. **Support the initiation or expand the activation of appropriate parts of the National Influenza Pandemic Preparedness Plan** (e.g. social distancing, limited public gatherings, closing of schools and businesses, etc.) to include:
   a. Beginning the diversion of resources (staff, funds, etc.) from non-essential functions to those that are essential. For example, focus on delivering basic services especially health care.
   b. Expanding mobilization of biomedical supplies (e.g. PPE, human vaccines if available, antiviral medicines) available in national, regional, or international stockpiles to affected areas for essential personnel identified in the National Influenza Pandemic Preparedness Plan.

D. Communications

1. **Continue supporting activities in phase 4**, including the further activation of the Human pandemic Emergency Communications Plans and associated "communications surge teams".

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Section VI. Guidance for Phase 6 Countries

Country characteristics: increased and sustained transmission of a new[32] HPAI virus in-country among the general population. The virus is fully adapted to humans and transmission is highly efficient. WHO has announced (or will soon announce) the official start of the human influenza pandemic. *Note: it is possible that other neighboring countries may also be in Phase 6 which may have an impact on how much international support is available to your country.*

Overall objectives:

- Support the transition from active case finding to passive surveillance for monitoring pandemic virus in human populations to follow its spread and evolution;
- Assist in the re-directing of medical and health volunteer staff, resources, etc. to treatment and support for pandemic cases in humans;
- Assist in the re-directing of other staff, resources, etc. to providing essential services for the human population;
- Support the change of focus for communications activities to concentrate on the general public and messages related to the human pandemic;
- Support the full activation of available biomedical and non-biomedical measures (e.g. social distancing);
- Support the monitoring of the effectiveness of control measures;
- Encourage and support the sharing of surveillance data and viral samples with other countries and international influenza experts.

Recommended USAID activities[33]:

Note: if the mission and other in-country AI working group partners (including other USG agencies, FAO, WHO, and host-government counterparts) determine that emergency assistance such as non-medical commodities and technical assistance is needed when the country goes from Phase 5 to Phase 6, please contact your regional bureau representative(s) and OFDA.

A. Preparedness/planning

No activities.

B.1. Surveillance (animal)

1. **Continue supporting activities outlined in phase 3**.

Note: As the number of human cases increases and a human pandemic starts, it is likely that staff and resources may be diverted away from monitoring HPAI in animals.

[32] New refers to a HPAI virus to which the human population has not been previously exposed. As a result, people have little or no existing immunity against the virus.

[33] It is assumed that USAID staff and resources will still be available in-country at the beginning of the human pandemic and will support the country's response. It is also anticipated that USAID's Office of Foreign Disaster Assistance will launch a Disaster Assistance Response Team once Phase 5 is reached. Other international teams may also be mobilized.

B.2. Surveillance (human)[34]

1. **Continue supporting activities outlined in previous phases**.
2. **Support new surveillance activities** to deal with the changing situation. These may include:
   a. Monitoring the epidemiological, virological and clinical features of the disease in order to forecast trends and mobilize resources.
   b. Monitoring antiviral resistance.
   c. Monitoring the impact of the human pandemic virus on various segments of the population.
   d. Providing current data on the impact of the disease to inform the distribution of national and international resources.
   e. Reducing epidemiological investigations and modifying the case definition of the human pandemic virus to reflect a clinical diagnosis in absence of laboratory confirmation.
   f. Maintaining collection of viral isolates to track any genetic changes in the virus.
   g. Maintaining good tracking in case there are subsequent waves of the human pandemic.
3. **Continue to support laboratory services**[35], including providing the following:
   a. Adequate resources, both funding and supplies.
   b. Adequate staffing since lab staff may be reduced by the impact of the disease.
   c. Biosafety since reintroduction of the human pandemic virus from a lab to the population may be a threat.
   d. Good communications so that lab results can be efficiently shared within the country and with international agencies.
4. **Assist in documenting lesson learned** to fine-tune surveillance as needed to better handle possible subsequent waves of pandemic virus in humans.
5. **Encourage and support the continued sharing of viral isolates** with all international agencies for the refinement of diagnostic reagents and vaccine development.
6. **Support the tracking of people exposed/ill** in first waves of human pandemic to possibly use as front-line workers in subsequent waves since they have some acquired immunity**.**

C.1. Response (animal)

1. **Same as phase 3.**

As the number of human cases increases and a human pandemic starts, it is likely that staff and resources may be diverted away from controlling HPAI in animals.

C.2. Response (human)

[34] While the focus will be on containment and treatment during the pandemic period, surveillance will still be needed to monitor the effect of various approaches and track the path of the disease in order to inform control measures.

[35] It is likely that laboratory services will be overwhelmed during a pandemic and that laboratory confirmation will not be possible for all human cases. As a result, the focus of laboratory services may change to one of tracking changes in the virus in order to update approach(es) to contain it.

1. **Support the full activation of the National Influenza Pandemic Preparedness Plan** to include:
   a. Completing the diversion of resources (staff, funds, etc.) from non-essential functions to those that are essential. For example, focus on delivering basic services especially health care.
   b. Fully activating non-biomedical interventions such as social distancing, quarantines, and isolation.
   c. Fully mobilizing biomedical supplies (e.g. PPE, human vaccines if available, antiviral medicines) available in national, regional, or international stockpiles throughout the country for essential personnel identified in the National Influenza Pandemic Preparedness Plan.
2. **Support the tracking of people exposed/ill** in first waves of human pandemic to possibly use as front-line workers in subsequent waves since they may have some acquired immunity**.**

D. Communications

1. **Same as phase 4. Support the full activation the Human pandemic Emergency Communications Plans and associated "communications surge teams"**.
2. **Support the tracking of people exposed/ill** in first waves of human pandemic to possible use as front-line workers in subsequent waves since they may have some acquired immunity**.**

Annex 1: Human Pandemic Phases (WHO)

Note: while WHO will determine the overall human pandemic phase for the world[36], countries and regions need to continually assess their specific situation (e.g. disease status, effectiveness of HPAI control plans, levels of donor funding, etc.) and the threat posed by other countries and regions in order to determine the appropriate level of alert and measures to put in place.

Interpandemic period

Phase 1 - No new influenza subtype has been detected in humans. An influenza virus subtype that has caused disease in humans may be present but the risk of human infection is considered to be low. It is likely that influenza subtypes that have caused human infection will always be present in wild birds or other animal species. It is important to maintain a level of vigilance and preparedness.

Phase 2 - No new influenza subtype has been detected in humans. A circulating animal influenza virus subtype poses a substantial risk of human disease. The presence of animal infection caused by a virus of known human pathogenicity may pose a substantial risk to human health and justify public health measures to protect persons and risk and closely monitor the progression of the virus.

Pandemic alert period

Phase 3 - Human infections with a new subtype but no human-to-human transmission, or at most rare instances of spread to a close contact. The occurrence of cases of human disease increases the chance that the virus may become transmissible from human to human, especially if this coincides with a seasonal outbreak of influenza. Measures are needed to detect and prevent the spread of the disease. The main characteristic of this phase is that the virus is not efficiently transmitted from human to human.

Phase 4 - Small clusters of human cases with limited human-to-human transmission but spread is highly localized, suggesting that the virus is not well adapted to humans. The virus has become more transmissible but is not yet efficient at human-to-human transmission so that its spread may possibly be delayed or contained.

Phase 5 - Large clusters of human cases but human-to-human spread is still localized, suggesting that the virus is becoming increasingly better adapted to humans, but may not yet be fully transmissible. This represents the final stage before a fully pandemic virus is reached. This is likely the last chance for a massive coordinated global intervention to delay or contain spread of the virus.

Pandemic period

Phase 6 - Increased and sustained transmission of the virus in the general population. This phase is characterized by a major change in global surveillance and response strategy, since human pandemic risk is imminent for all countries. The national response is determined by the disease impact within each country.

[36] See: http://www.who.int/csr/disease/avian_influenza/phase/en/index.html

Annex 2A. Stratification of Countries by Pandemic Phase

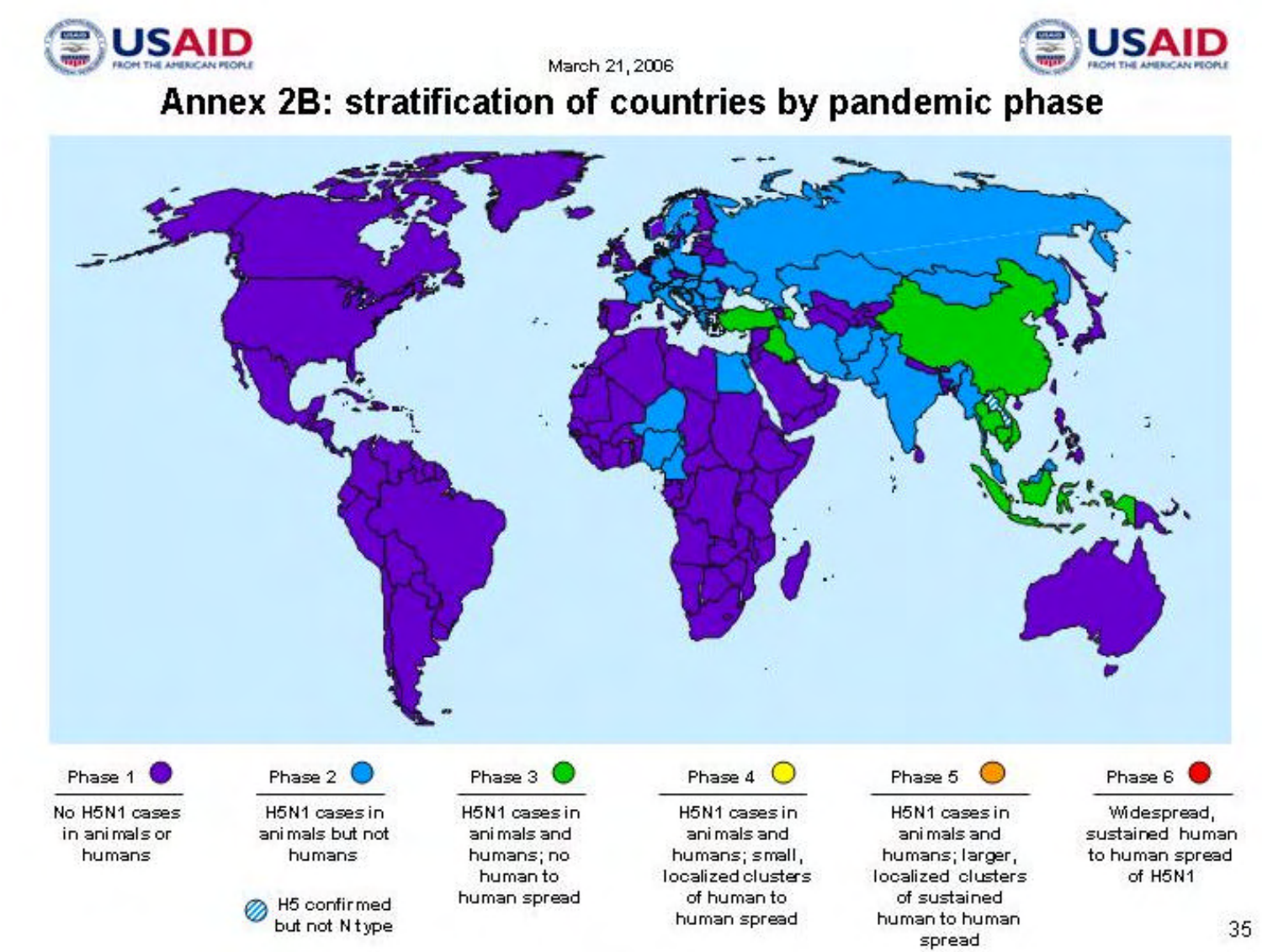
Categories based on confirmed cases reported by WHO and OIE as of March 21, 2006 (map shown on following page)

Phase 1 countries	Phase 2 Countries[@]	Phase 3 countries	Phase 4 countries	Phase 5 countries	Phase 6 countries
All others not listed as phase 2-6 countries	Afghanistan Albania Austria Bosnia and Herzegovina (H5) Bulgaria Burma Cameroon Croatia Cyprus Denmark* (H5) Egypt France* Georgia (H5) Germany* Greece* Hungary* India Iran Israel* Italy* Kazakhstan Laos (H5) Malaysia* Mongolia Niger Nigeria Pakistan Poland* Romania Russia Serbia and Montenegro Slovak Republic* Slovenia Sweden* Switzerland* Ukraine	Azerbaijan Cambodia China Indonesia Iraq Thailand* Turkey Vietnam	None	None	None

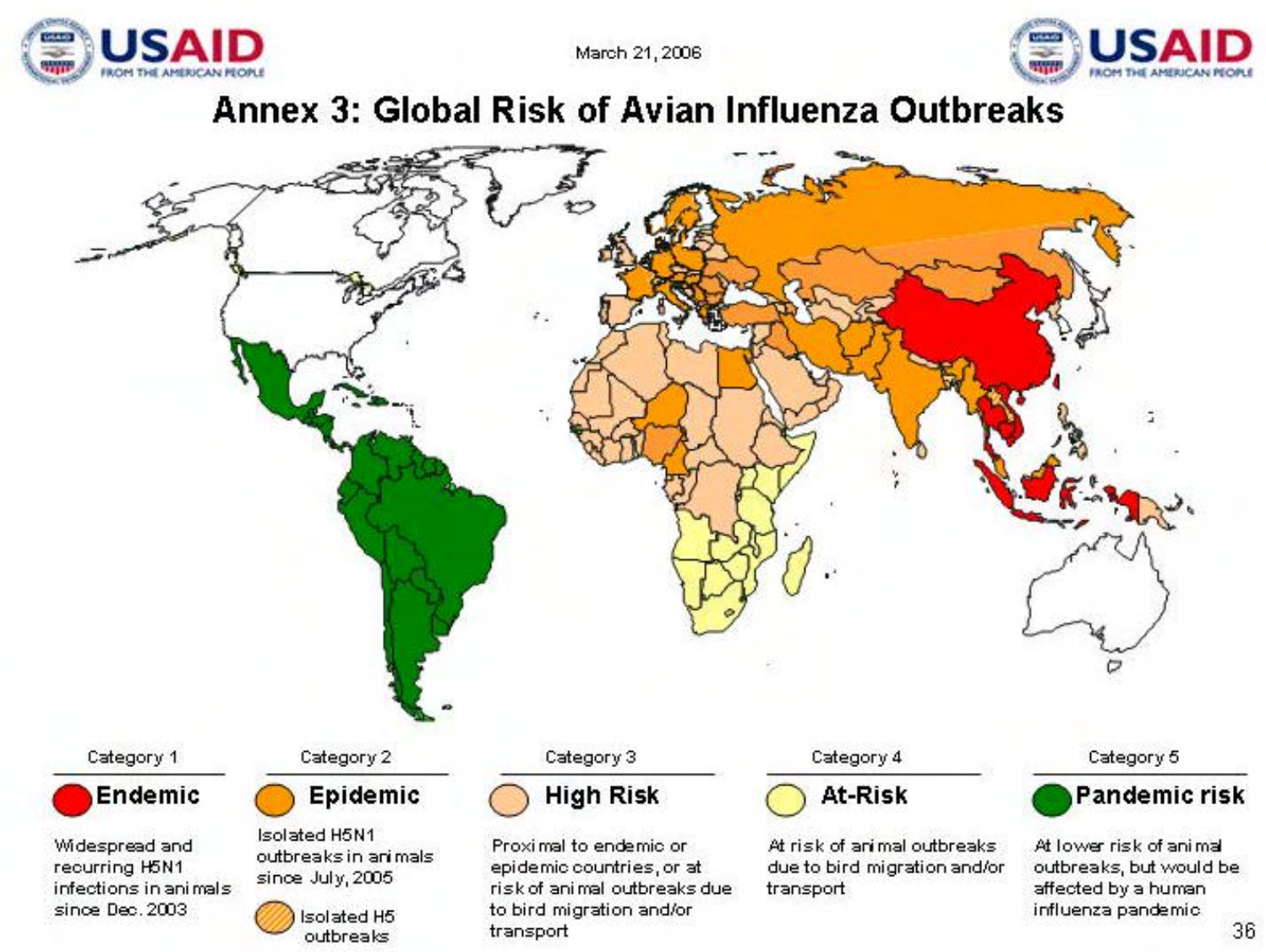
[@] Japan and South Korea not shown since they have had no confirmed H5N1 cases since early 2004 and surveillance is good.

* do not qualify for USAID AI funding because existing in-country capacity and resources are sufficient.

Annex 2B: Stratification of Countries by Pandemic Phase



Annex 3: Global risk of avian influenza outbreaks



Annex 4. USAID Avian Influenza Monitoring and Evaluation Plan

USAID Avian and Pandemic Influenza Management and Response Monitoring and Evaluation Plan
NOTE: This USAID M&E plan will be merged into a larger USG reporting plan at a later date in order to establish one unified data collection and reporting system. As those plans unfold, this document will be updated to reflect the broader USG plan.

Program monitoring will be a cornerstone of USAID's Avian and Pandemic Influenza Management and Response efforts. With the aggressive goal to contain emerging H5N1 infections among animals and mitigate the potential impact of the 21st century's first influenza pandemic, it is imperative that those regions and countries currently affected by H5N1 outbreaks among animals and humans as well as those regions and countries threatened by the virus' spread have well-developed and timely data from surveillance and program monitoring.

This M&E plan will serve to assist Missions and USAID/Washington in planning and tracking the Agency's investments in international, regional, national and local AI containment preparation and response activities. This plan will also provide key information to the USG and the international donor community on the overall progress and status of AI containment efforts. This plan will include a limited set of program monitoring indicators designed to track key **outputs** and track program-level **outcomes** that arise from USAID-funded activities. These measures are intended to track USAID's investment and the overall program's progress and success.

USAID has identified **five key functional areas** that, together, provide a comprehensive approach to effectively limiting the spread of H5N1 among animals and containing human H5N1 outbreaks through rapid and effective responses. The five functional areas are: 1) *Preparedness and Planning, 2) Surveillance (animal and human), 3) Communications, 4) Response (animal and human), and 5) Commodity Stockpiling.* Key indicators have been identified for each of these five areas for both program monitoring purposes (project outputs) and for measuring national level outcomes and overall impact (project outcomes).

Provided below is guidance regarding the data collection requirements for AI containment program monitoring and evaluation. Indicator data will be collected through several means, including: USAID-funded project reports, partner (including WHO and FAO) reports, USAID field surveys, and annual and/or bi-annual technical surveys in-country. Together this information will inform USAID on the status of global preparedness and AI containment efforts and meet Congressional reporting requirements.

Goal and Timeframe: The Agency's overarching goal is to successfully contain the H5N1 virus within the animal population over the next 12-24 months. Our efforts will be deemed successful if 1) human infection remains sporadic and 2) the number of new countries with endemic H5N1 infections among animals is kept to a minimum. Given that the circumstances surrounding the status of

the H5N1 AI virus are constantly evolving, the Agency recognizes that it must be flexible in order to address the current epidemiological profile of the virus and provide appropriate countermeasures. Therefore, this M&E plan is designed to help the Agency track its investments and measure progress towards establishing successful containment measures given the real possibility that programs may need to shift focus or rapid change in scale with little notice. **The indicators listed in this plan are intended to measure USAID investments for the next 12-24 months only; the plan will be subsequently updated and revised.**

USG Efforts: Indicators in this plan reflect focus of USAID's role in the animal, human and emergency response sectors, which fit into the larger, more comprehensive USG investment. Other USG departments and agencies will undertake a wider scope of activities. The complementary investments of HHS/CDC, USDA, DOD, and DOS will provide key support to USAID's efforts. USAID will work in conjunction with the other agencies. For human health related activities, USAID will work closely with HHS/CDC and DOD. For animal health related activities, USAID will work closely with USDA.

Reporting Requirements: Data for all indicators will be collected on a semi-annual basis; selected indicators (marked in the plan) will be collected quarterly. All data will be submitted through a web-based reporting system.

Operating principles: This M&E plan is written in consideration of the following operating principles:

1. Indicators must (a) be measurable, (b) be collected in a timely manner, (3) provide quality data, and (4) be economically feasible in a fast changing and dynamic environment.
2. The data collection burden for indicators should not detract from AI programming efforts.
3. Given the current emergency response, viable and realistic outcome and impact indicators will be limited, and may need to be revised and updated at a later date.
4. Measures included in this plan will be integrated into a broader USG M&E plan. The enclosed indicators reflect USAID programmatic investment but may also measure and account for other additional USG investments. USG partners will develop additional indicators to reflect their investments in AI containment programming.

1. Preparedness and Planning

Definition: AI preparedness and planning activities should be supported and monitored so as to track the level of national commitment and response capacity if/when H5N1 appears among either animals or humans. First priority should be placed on establishing adequate response to contain animal outbreaks while also planning for the possibility of future human cases. USAID investments will measure improvements at the national and sub-national level to implement an effective strategy specifically designed to contain the H5N1 virus given the unique characteristics of each country while also following accepted and established international standards. Activities should be designed to establish or enhance national capacity to adequately address the existing and impending arrival of H5N1 among animals and the threat of human outbreaks of infection by adopting state-of-the-art containment measures. Preparedness and planning programs may include: establishing and strengthening in-country working groups, identifying key areas requiring program strengthening, designing or updating a national multi-sector H5N1 AI plan and national pandemic influenza plan, and testing those plans for feasibility.

	Indicator	**Source/ Methodology**	**Reporting Agency**
1.1*	Number of National Pandemic Plans reviewed and approved by WHO	USAID Survey/WHO	USAID
1.2	Number of National H5N1 Influenza Plans reviewed and approved by FAO	USAID Survey/FAO	USAID
1.3	Number of H5N1-affected countries that have multi-sectored task force (including representatives from both the animal and human health sectors) and meet regularly[37]	USAID Survey	USAID
1.4	Number of properly staffed and equipped veterinary posts in poultry producing areas		USAID
1.5*	Percentage and number of in-country, AI-designated health facilities prepared to provide internationally recognized standard treatment care for AI-related illnesses		USAID (in non-HHS priority countries)

** Human health activities will be conducted in coordination with HHS/CDC in countries where USAID and HHS/CDC presence overlaps. USAID will engage in human health activities in countries where HHS/CDC does not have a presence, but will be in accordance with USG goals and investments. USAID will be responsible for reporting on progress in areas of USAID investment only.*

[37] Meeting regularly is defined as meeting at least: 1 per month if in category 4-5, 2 per month if in category 3, weekly if in category 1-2. See Annex 3 for country categories.

2. Surveillance

A) Animal Surveillance

Definition: The quality and scope of surveillance activities should be monitored continuously in order to ensure that the system is noticing suspicious animal die offs, adequately tracking suspected cases of H5N1 and collecting, interpreting and disseminating data in order to facilitate the development of evidence-based interventions. Efforts should be focused on developing capacity to identify animal outbreaks before human cases appear in-country. Activities supporting passive and active surveillance for animal outbreaks can include: enhancing in-country laboratory capacity, updating the national surveillance strategy, linking animal and human surveillance efforts, monitoring the health of wild bird and domestic poultry populations, analyzing data collected, and sharing samples with the international community.

	Indicator	**Source/ Methodology**	**Reporting Agency**
2.a.1**	Number of **individuals trained** (local vets, para-vets, farmers etc) to identify suspected cases of H5N1 animal infections and/or initiate case investigations in accordance with FAO standardized procedures	Program reports	USAID
2.a.2**	Number of **individuals trained** to correctly test and confirm avian influenza (particularly H5) among suspected animal infections, using international standard laboratory practices.	Program reports	USAID
2.a.3**	Standardized **procedures adopted and implemented** (including case definition, protection measures, etc) for suspected animal H5N1 case detection and investigation	USAID Survey	USAID
2.a.4**	Number of countries implementing an AI early warning system for animal infections	USAID Survey	USAID

***All efforts will be coordinated with USDA.*

B) Human Surveillance

Definition: The quality and scope of surveillance activities should be monitored continuously to ensure that the system is adequately investigating suspected human cases of H5N1, collecting, correctly interpreting and disseminating data in order to facilitate the development of evidence-based interventions. Activities supporting passive and active surveillance for humans include: enhancing in-country laboratory capacity, linking animal and human surveillance efforts, strengthening communication and reporting pathways, reporting incidence of human infection, research primary modes of viral transmission, identifying key risk factors, analyzing data collected and sharing samples with the international community.

	Indicator	**Source/ Methodology**	**Reporting Agency**
2.b.1*	Number of **individuals trained and certified** (local health care providers, NGO staff, public sector workers) to identify suspected cases of H5N1 human infections and/or promptly initiate case investigations in accordance with WHO standardized procedures	Program reports	USAID
2.b.2*	Number of **individuals trained and certified** to correctly test and confirm H5N1 human infections using international standard laboratory practices.	Program reports	USAID (in non HHS presence countries)
2.b.3*	Standardized procedures adopted and implemented (including case definition, protection measures, etc) for suspected human H5N1 case investigation	USAID Survey	USAID
2.b.4*	Number of countries implementing an AI early warning system for human infections	USAID Survey	USAID

** Human health activities will be conducted in coordination with HHS/CDC in countries where USAID and HHS/CDC presence overlap. USAID will engage in human health activities in countries where HHS/CDC does not have a presence, but will be in accordance with USG goals and investments. USAID will be responsible for reporting on progress in areas of USAID investment only.*

3. Communication

Definition: Communications activities should be monitored continuously throughout the life of the AI programs in order to track implementation of planned activities and to assess how messages, educational materials and other inputs are being received. While specific messages will change as a country moves through the different Pandemic Phases (as defined by WHO), the overall communication strategy may be monitored through various means, including:

- Periodic review of program documents (work plans, monthly/quarterly reports, etc);
- Regular audits of materials at representative distribution points to find out qualities of materials issued, who get the materials, the purpose to which the materials are put and the comments users make on the materials, if any;
- Intercept interviews at central locations to verify perceptions of target audiences and perceptions of campaign slogans or tag lines;
- Conduct knowledge, attitude, practice and behavior (KAPB) surveys to design and revise communication messages.

Activities supporting communication efforts include: mobilizing communication networks to prioritize AI efforts, designing and implementing national communication strategies, commissioning and broadcasting AI awareness and behavior change messages, training individuals on best practices and providing accurate material to communicators, and reviewing and ensuring quality and coordinated messages are being released.

	Indicator	**Source/ Methodology**	**Reporting Agency**
3.1	Estimated number of **individuals reached** through mass media and community outreach AI awareness and behavior change programs	Program reports	USAID
3.2	Number of **persons trained** (veterinarians, agriculture extension workers, journalists, government spokespersons, health care providers, etc) to deliver accurate and transparent AI reporting, mass communication and risk reduction messages	Program reports	USAID
3.3	Percentage of Sector 3 & 4[38] farmers in targeted areas who adopt one or more of the animal husbandry best practice recommendations[39] promoted in the BCC messages.	Cluster survey	USAID
3.4	Percentage of households/individuals in targeted areas who adopt one or more of the human hygiene best practice recommendations[3] promoted in the BCC messages.	Cluster Survey	USAID

[38] **FAO Definitions**: *Sector 3* = c**ommercial poultry production system with low to minimal biosecurity** and birds/products entering live bird markets (e.g. a caged layer farm with birds in open sheds; a farm with poultry spending time outside the shed; a farm producing chickens and waterfowl).; *Sector 4* = v**illage or backyard production with minimal biosecurity** and birds/products consumed locally.

[39] best practice will vary by country/region

4. Response

A) Animal Response

Definition: Animal response activities should be monitored closely and reassessed often in order to track implementation of planned activities and to ensure that the most effective containment measures are being implemented at any given time. While national ability to respond to outbreaks will change as a country moves through the different pandemic phases, the overall response strategy should be designed to complement and build on earlier investments. Response activities for animal outbreaks include: establishing rapid response teams, implementing incentive schemes, collecting and transporting samples, and implementing containment measures (culling, vaccination, quarantine, compensation).

	Indicator	**Source/ Methodology**	**Reporting Agency**
4.a.1	Number of **rapid response teams** (properly trained, equipped, and supported) to implement humane, safe and efficient culling methods in response to animal H5N1 outbreaks	Program report	USAID
4.a.2	Number of **individuals trained** and recognized by the national government as members of the rapid response teams to be mobilized when suspected animal H5N1 outbreaks occur	Program report	USAID
4.a.3	Average number of days between the initial report of a suspected H5N1 animal outbreak and arrival of a rapid response team		USAID

Note: all efforts will be coordinated with USDA.

B) Human Response

Definition: Human response activities should be monitored closely and reassessed often in order to track implementation of planned activities and to ensure that the most effective containment measures are being implemented at any given time. While national ability to respond to outbreaks will change as a country moves through the different pandemic phases, the overall response strategy should be designed to complement and build on earlier investments. Response activities for human outbreaks include: establishing certified rapid response teams, training health workers about appropriate care models, implementing social distancing policies, promoting infection control, deploying of rapid response teams, implementing containment strategies, deploying and distributing essential commodities.

	Indicator	**Source/ Methodology**	**Reporting Agency**
4.b.1	Average number of days between the initial report of a suspected H5N1 human case and arrival of a rapid response team		USAID
4.b.2[40]	Number of **persons trained** (first responders, trained volunteers, health care providers) to recognize and provide care for suspected human H5N1 infections, in accordance with international standards (referrals, appropriate care, infection control and response measures).	Program repots	USAID
4.b.3	Number of properly trained, equipped, and supported rapid response teams prepared to respond to suspected human H5N1 cases		USAID
4.b.4	Number of individuals trained and recognized by the national government as members of the rapid response teams to be mobilized when suspected human H5N1 outbreaks occur		USAID

** Human health activities will be conducted in coordination with HHS/CDC in countries where USAID and HHS/CDC presence overlap. USAID will engage in human health activities in countries where HHS/CDC does not have a presence, but will be in accordance with USG goals and investments. USAID will be responsible for reporting on progress in areas of USAID investment only.*

[40] USAID efforts will complement those of HHS/CDC priority to train and prepare health facilities in countries with HHS/CDC presence.

5. Commodity Stockpiling

Definition: National stockpile activities should be monitored regularly in order to determine the international community's ability to rely on internal resources for containing and suppressing human outbreaks of H5N1 infections. Stockpile commodities should be monitored to ensure that the quality of stored equipment and medication remains high and not compromised when exposed to various elements (temperature, time, movement). Activities for commodity stockpiling include: determining essential commodities, establishing release triggers for mobilizing the stockpile, procurement of commodities, developing deployment strategy for stockpile commodities, and stockpile replenishment.

	Indicator	**Source/ Methodology**	**Reporting Agency**
5.1	Number of commodity units purchased: (1) soap, (2) decontaminate, (3) PPE, and (4) animal vaccines for **international, regional and national** stockpiles	Program reports	USAID
5.2	Number of times per country the (1) **international, (2) regional, and/or (3) national** stockpiles were accessed during the past 90 days.	Program reports	USAID
5.3	Number of days required to replenish deployed **international and regional** stockpile commodities	Program reports	USAID
5.4	Average number of hours taken from receipt of valid national request for (1) **international** or (2) **regional** stockpile goods to deployment of the requested material.	Program reports	USAID

6. AI Program Impact Measures

	Indicator	Source/ Methodology
IM.1	Number of confirmed H5N1 human cases, by country	WHO
IM.2	Number of animal outbreaks, by country	FAO
IM.3	Number of birds culled, per week, per country	National Ministries of Agriculture
IM.4	Number of times, per country, a Rapid Response Team was mobilized in the past 90 days for (1) a suspected animal outbreak and/or (2) a suspected human case	Mission Survey

Annex 5. USAID/Washington central mechanisms for programming AI funds

ANIMAL HEALTH

Note: For a general listing and description of global mechanisms, refer to the Bureau for Economic Growth and Trade Users Guide *at http://inside.gov/EGAT/uguide/index.html*

1. The Global Conservation Program (LWA): This Leader with Associates (LWA) mechanism provides assistance with migratory bird monitoring and surveillance through six NGO partners including the Wildlife Conservation Society (WCS), World Wildlife Fund (WWF), the Africa Wildlife Foundation, Conservation International, EntrpriseWorks Worldwide, and the Nature Conservancy.
   Contact: Doreen Robinson, EGAT (drobinson@usaid.gov, 202-712-0035).

2. Rural and Agricultural Incomes with a Sustainable Environment (RAISE Plus): The RAISE Plus IQC supports market-driven and environmentally sustainable agricultural development by improving poultry production and marketing systems through technical assistance, training, and infrastructure projects working directly with agricultural producers and enterprises, and community natural resources managers. For rapid scale-up, Missions have the option of tapping into existing agribusiness development task orders, which have the scope and technical profile (experts on the ground, linkages to private sector industry and appropriate government agencies, etc.) to successfully incorporate technical assistance in avian influenza issues. New task orders can be developed for longer-term projects focusing on AI issues, including capacity building and poultry sector restructuring.
   Contact: David Soroko, EGAT (202-712-0897, dsoroko@usaid.gov)

3. RAISE SPS Project (Task Order under RAISE): The RAISE SPS (Sanitary and Phytosanitary Standards) Task Order provides rapid access to technical assistance and logistical expertise to address H5N1 containment and prevention in animals. RAISE SPS has provided assistance in outbreak prevention planning and capability assessment. To access this mechanism, Missions should draft a brief scope of work against which the Task Order team can rapidly identify and mobilize technical experts.
   Contact: David Soroko, EGAT (202-712-0897, dsoroko@usaid.gov)

4. Farmer-to-Farmer Program: Provides voluntary technical assistance to farmers, farm groups, and agribusinesses in developing and transitional countries to promote sustainable improvements in food processing, production, and marketing. This mechanism can be tapped for technical assistance in improving biosecurity to minimize human exposure to H5N1 in animals. Volunteers include retired and active farmers and agricultural professionals, many of which are also market their services as paid consultants.
   Contacts (EGAT): Robert "Woody" Navin (202-712-5837, rnavin@usaid.gov; Eric Benschoter (202-219-0476, Ebenschoter@afr-sd.org); Shirley Pryor (202-712-4086, spryor@usaid.gov)

5. The Partnership for Food Industry Development (PFID) LWA: Provides access to technical assistance from on-staff veterinary epidemiology and avian infectious disease experts from Louisiana State University, which can also issue sub-awards to tap expertise from other universities. This mechanism is appropriate for addressing industry and trade-related challenges surrounding H5N1, including the ability to meet international health requirements for trade in animal products, and increasing biosecurity practices in the supply chain.
   Contacts: Carol Wilson, EGAT (202-712-0506, cawilson@usaid.gov); Lakshman Velupillai, LSU (225-578-6963, lvelupillai@agcenter.lsu.edu)

6. FAO Agreement: Allows USAID missions and bureaus to transfer funds to the U.N. Food and Agriculture Organization – either to headquarters, regional or country offices – for specified technical input and assistance in the development, implementation and/or evaluation of avian influenza activities related to animal health activities. USAID supports FAO as the lead international organization for animal health activities, with capacities to support outbreak surveillance, response, planning & preparedness, improved biosecurity, and communications.
Contact: Peter Morris, DCHA/OFDA (202-712-1095, pmorris@usiad.gov)

7. Wild bird surveillance agreement: A new procurement mechanism is being developed in USAID/W to provide countries with technical assistance related to monitoring wild birds for the presence of H5N1. It is anticipated that this mechanism will be completed in time to accept FY06 funding.
Contact: TBD

HUMAN HEALTH

Note: For a general listing and description of global mechanisms, refer to the Bureau for Global Health Users Guide *at* http://ghintranet.usaid.gov/GH/userguide/index.html

1. WHO Umbrella Grant: Allows USAID missions and bureaus to transfer funds to WHO – either to headquarters, regional or country offices – for specified technical input and assistance in the development, implementation and/or evaluation of health programs and studies.
CTO: Dale Gibb, GH (202-712-0753, dgibb@usaid.gov)

2. WHO AFRO Grant: Allows AFR missions and AFR/SD to transfer funds directly to WHO/AFRO for specified technical input and assistance in the development, implementation and/or evaluation of health programs and studies.
CTO: Mary Harvey, AFR/SD (202-712-5483, maharvey@usaid.gov)

3. TASC2/Global Health IQC: Provides access to a diverse group of experienced contractors and subcontractors covering a full range of capacities including policy reform, community and individual behavior change, and service delivery. This mechanism can be use for short or long-term TA, program design, implementation, and evaluation related to human disease surveillance, response, preparedness and prevention, and communications. Prime implementers include Abt Associates, AED, Chemonics International, Emerging Markets Group LTD., Health Star, Initiatives Inc., John Snow Inc., MSH, RTI International, and University Research Company.
Contact: Megan Fotheringham, GH (202-712-0537, mfotheringham@usaid.gov)

4. Africa 2010: A follow-on to the SARA Project, the Africa 2010 project supports the Africa Bureau's Office of Sustainable Development in identifying issues, developing the analytical agenda, and providing management assistance for analysis, dissemination, communications and advocacy, promoting African partnerships, strengthening African capacity, and monitoring and evaluation. Services provided include technical and institutional support to USAID technical staff as well as to African institutions; building African regional capacity to plan, manage, and implement health programs; helping disseminate current knowledge and analysis systematically and strategically in the region; helping advocate for increased attention to and resources for key strategic issues.
Contact: Mary Harvey, AFR/SD (202-712-5483, maharvey@usaid.gov)

COMMUNICATIONS & BEHAVIOR CHANGE

1. TASC2/Media & Communications IQC : Through this IQC, missions can access 3 prime contractors (AED, Links Media, Futures Group) and a broad set of subcontractors that specialize in designing and implementing a wide range of public information/awareness and behavior change communications

activities at both the national and community levels. Specific areas of expertise include developing key messages, training key spokespeople and journalists, mobilizing grass-roots participation, and implementing comprehensive communications campaigns. Prime implementers include the Academy for Educational Development (AED), Futures Group, and Links Media. Field buy-in to this project requires the competition of a new task order, which can occur in as little as two weeks.
Contact: Megan Fotheringham, GH (202-712-0537, mfotheringham@usaid.gov)

2. International Broadcasting Bureau/VOA: USAID's agreement with "Voice of America" provides support for avian influenza communications/public awareness campaigns. VOA can develop, translate and broadcast through television, radio, and web-based networks a variety of programs designed to increase awareness and support behavior change. VOA also has broad experience in training journalists and key spokespeople, and in disseminating messages through call-in programs, stringer's reports, interviews, travel coverage, and workshops on health journalism, etc.
Contact: Chris Thomas, GH (202-712-1092, chthomas@usaid.gov)

3. Hygiene Improvement IQC: This project can be tapped to support the prevention of human infection through improved hygiene and household sanitation. Prime contractor AED has experience with a combination of hardware and hygiene promotion interventions, as well as the policy, human resource, community organization, private sector involvement, and institutional components required to sustain such interventions over the long term. Missions can use this IQC to access short-term and long-term technical assistance, training, information support, and program implementation.
CTO : John Borrazzo (202-712-4816, jborrazzo@usaid.gov)

4. Media & Communications agreement: A new procurement mechanism is being developed in USAID/W to provide countries with technical assistance related to designing and implementing public information/awareness and behavior change communications activities at both the national and community levels. It is anticipated that this mechanism will be completed in time to accept FY06 funding.
Contacts: Kate Crawford, ANE (202-712-4409, kacrawford@usaid.gov) and Megan Fotheringham, GH (202-712-0537, mfotheringham@usaid.gov)

Commodities

1. Personal Protective Equipment (PPE) through OFDA: Although the different categories of responders require different levels of PPE, USAID/OFDA and HHS/FOH have developed a single "PPE Kit" that provides the highest level of protection as recommended by Centers for Disease Control and Prevention (HHS/CDC) and WHO guidelines.

   USAID/DCHA is now developing emergency stockpiles of key commodities – excluding antivirals – that will be prepared to assist countries with confirmed animal or human outbreaks of H5N1. For emergency purposes in response to an outbreak, **missions can request to access stockpiled PPE, disinfectant kits, and shipping containers for biological samples from a stockpile that is being managed centrally by USAID/DCHA**. Before making a request, missions should first consult with host governmental officials (e.g. Ministry of Agriculture, Ministry of Health), other USG agencies, WHO, and FAO to determine is there is an emergency need for these commodities. For longer-term needs, missions can use their own funds to procure PPE and disinfectant directly through the HHS Federal Occupational Health unit (see http://inside.usaid.gov/AI/guidance/ppe.html).

Purchase, storage, and transportation costs for PPE obtained through this mechanism are borne by the mission.

For a detailed list of contents for PPE kits and instructions for estimating PPE needs, please consult appendix 6. Technical support is also available through Steve Catlin, USAID\DCHA\OFDA, 1-202-712-1009, scatlin@usaid.gov.

Procurement Quick-Reference Guide			
Specific Mechanism	**Award #**	**Bureau**	**Field Support**
AFRICA 2010	RLA-C-00-05-00065	AFRICA	NO
FAO GRANT	DFD-A-00-05-00238	DCHA/OFDA	YES
PHR-Plus	HRN-C-00-00-00019	GH	YES
RAISE SPS Project IQC (DAI) -- EGAT	EDH-I-01-05-00004	EGAT	YES
TASC II (AED)-Communications	GHS-I-02-03-00036	GH	YES
USDA	FDA-T-00-05-00067	DCHA/OFDA	YES
VOA	AAG-P-00-01-00001	GH	YES
WCS	TBD-GH-03-2006	GH	YES
WHO Umbrella grant	AAG-G-00-99-00005	GH	YES
WHO/AFRO Grant	AFR-G-00-99-00001	AFRICA	NO

Annex 6. Interim budget guidance for USAID operating units

The following guidance was issued by the USAID Administrator on November 3, 2005:

> Because of the urgency and importance of the Agency's planning for a possible Avian Influenza (AI) pandemic, I am personally issuing the following Interim Budget Guidance for immediate action. As I have stated previously, this is now the Agency's first priority. Please proceed accordingly. If you have any questions, contact GH and/or PPC.
>
> The following guidance covers the reprogramming of funds for immediate AI related activities prior to the availability of FY 06 AI funds.
>
> Missions and regions are asked to be creative and to work within existing resource constraints. This could involve reprogramming resources, if needed, to address urgent needs. However, countries/regions must consult with USAID/W prior to reprogramming. There is no plan to reimburse missions or regions for redirected funding.
>
> Mission requests for reprogramming funds into AI activities should be passed through the designated point person in the regional bureau. The regional bureau point person will then present the request to the Avian Influenza Preparedness and Response Unit for consideration and a final determination based on the technical merit of the activity, availability of funds within existing statutes and earmarks, and its appropriateness to the level of threat in the country. Responses from USAID/W will be within 48 hours.
>
> Any redirected funds should be tagged so that the Agency can track the AI obligations. A budget code has been established for all expenditures associated with AI. The code is "AFLU." Any approved use of supplemental or reprogrammed funds for activities associated with AI must be coded with this designation.
>
> The following items **should not** be proposed to be procured with reprogrammed funds: Tamiflu or any other anti-viral medication and human influenza vaccines.

To facilitate Missions or bureau requests for reprogramming, the AI Unit has developed a form for providing the budget and activity information required by USAID/Washington for approval (available at http://inside.usaid.gov/AI/guidance/budget.html). ***Completed request forms should be sent to the designed regional bureau AI point person and copied to Dennis Carroll, Murray Trostle, Ben Zinner and Lisa DeVasquez from the AI Unit.***

Annex 7. Guidance for estimating country Personal Protective Equipment (PPE)

Identification of Categories of Personnel Requiring PPE:

Based on the available literature, OFDA has identified 4 different categories of personnel who may require PPE to respond to an AI outbreak. These categories are:

1. **Outbreak Investigation team:**
This is the team that may respond to report(s) of dead poultry. Their responsibility would be to determine whether or not poultry deaths are due to AI or some other cause. Since it is unclear at the time of response whether AI is involved, we must assume that AI has in fact, been identified. The level of PPE required would be the same as that needed for pre-clinical healthcare workers working with confirmed human AI cases.

2. **Animal Cullers:**
Animal cullers will be required to eliminate all potentially infected poultry in any flock suspected of being infected with AI.

3. **Pre-Clinical HealthCare Workers:**
Pre-clinical health care workers include ambulance drivers, medical personnel responding to suspected human AI cases in a home, etc. The level of PPE required would be the same as that needed for the outbreak investigation team. The main difference would be in the gloves and footwear required.

4. **Clinical HealthCare Workers:**
Clinical health care workers include nursing staff, medical staff, and any hospital employee who may come into contact with a patient during his/her hospitalization.

Identification of PPE Needs:

Although the different categories of response personnel require different levels of personal protective equipment, OFDA has developed a single "PPE Kit" that provides the highest level of protection as recommended by CDC and WHO guidelines. In summary, each responder requiring PPE should be provided with this kit which includes the following items:

1. N-95 mask
2. Gloves that may be disinfected
3. Tyvek suit
4. Tyvek suits with hoods
5. Goggles
6. Disposable boot covers
7. Disinfectant wipes for equipment
8. Hand sanitizer wipes
9. Biohazard bag for proper disposal of contaminated items
10. Tyvek waterproof aprons
11. Pictograph directions

This PPE kit consists of a transparent, branded plastic package.

- The first section contains the mask, gloves, suit, and goggles.
- The second bag section contains "expirables" such as the hand sanitizer wipes, equipment sterilizer wipes and biohazard bag for proper disposal of contaminated items.
- The third section contains the heavier disposable boot covers, waterproof apron and heavier gloves for animal culling operations.
- The entire package is branded on each section with the USAID logo, PPE size and pictograph directions.

Individual responders will be issued the entire 3-section kit. However, depending on the level of protection required, the entire contents of all three sections may not be used. For example, hospital staff will probably not require the waterproof aprons, heavier boot covers and heavier gloves. Since these items are in a separate pouch, they may be salvaged and re-directed to supply other responders.

Each pre-packaged set of PPE costs approximately $10.00 - $12.00 USD provided that delivery is to take place **not sooner** than 90 days following the order date. This price does not include shipping and storing costs. Please contact Steve Catlin (Ph. 202-712-1009, scatlin@usaid.gov) or Joe Hughart (Ph. 678-569-3938, jhughart@psc.gov) regarding rush order pricing.

Several Missions have expressed interest in using their own funds to purchase PPE. The following table provides product numbers as well as costs.

ITEM	SOURCE	STOCK #	UNIT PRICE	MAX PER ORDER	SOW required?
Bag, biohazard cs/250	HHS/PSC/Supply Svc Ctr	8105-00-000-0007	$29.60	NA	No
Bag, plastic,ziplock, 2 ml 6x6", cs/1000	HHS/PSC/Supply Svc Ctr	8105-00-000-0016	$23.52	NA	No
Pad, isopropyl alcohol impregnated, 1 in x 1-1/8 in, 200s	HHS/PSC/Supply Svc Ctr	6510-00-000-1215	$1.29	NA	No
Pad, povidine-iodine impregnated, 100s	HHS/PSC/Supply Svc Ctr	6510-01-291-9292	$3.12	NA	No
Tyvek coveralls (S) case/25	GSA - Uniforms Manuf.	GSA Advantage! 1423	$79.30	$100,000	Yes
Tyvek coveralls (M) case/25	GSA - Uniforms Manuf.	GSA Advantage! 1423	$79.30	$100,000	Yes
Tyvek coveralls (L) case/25	GSA - Uniforms Manuf.	GSA Advantage! 1423	$79.30	$100,000	Yes
Tyvek boot covers with PVC Soles case/100	GSA - Contact East DBA Jensen Tools	GSA Advantage! T224*	$98.98	$100,000	Yes
Gloves, patient examining and treatment, plastic (vinyl), small bx/100	HHS/PSC/Supply Svc Ctr	6515-00-000-6210	$2.96	NA	No
Gloves, patient examining and treatment, plastic (vinyl), med bx/100	HHS/PSC/Supply Svc Ctr	6515-00-000-6211	$2.94	NA	No

Gloves, patient examining and treatment, plastic (vinyl), large bx/100	HHS/PSC/Supply Svc Ctr	6515-00-000-6212	$2.94	NA	No
Gloves, nitrile 6 mil bx/100	GSA Advantage	8005L	$13.21	NA	Yes
Goggles, chemical splash	GSA - WECSys LLC	GSA Advantage! CBT 40660, W340660	$1.74	$100,000	Yes
Lens cleaner, antifogging	GSA Global Supply	6850-00-592-3283	$11.21	$24,999	Yes
Mask, Particulate N-95, Respirator and Surgical, small bx/20	HHS/PSC/Supply Svc Ctr	6532-00-000-0050	$20.10	NA	No
Mask, Particulate N-95, Respirator and Surgical, regular, bx/120	HHS/PSC/Supply Svc Ctr	6532-01-422-5282	$67.89	NA	No
Mask, Particulate N-95, Respirator and Surgical, large bx/20	HHS/PSC/Supply Svc Ctr	6532-00-000-0052	$20.10	NA	No
Aprons, plastic cs/100	GSA KM2	GSA Advantantage! GAX390	$10.57	$300,000	No
Fit test kit, Bitrex, qualitative	GSA MSA	GSA Advantage! 697444	$166.65	$200,000	Yes

Calculation of PPE needs:

General Responders:

It may be helpful to use the following formula to determine the quantities of PPE to be provided.

- It is anticipated that, on average, each responder will need to have 4 sets of PPE for each 8 hour shift. This calculation is based on the assumption that the responder will remove and properly discard used PPE for lunch and "bio-breaks" an average of 4 times during an 8-hour shift.
- Number of personnel involved.
- Expected period of involvement in days.
- The frequency of changes of the PPE is 4 times per 8 hour shift.
- Quantity needed: (# Persons) X (# Days) X (4 changes/shift) = Total.

Animal Culling Operations:

We are looking at "intervention" needs rather than "monthly" needs. In this case, we define an intervention as the culling of a single clearly-defined flock. The culling operation may be as small as a single back-yard flock of 20 birds or as large as a commercial poultry operation with thousands of birds.

Follow our thought process developed with the assistance of a veterinary specialist.

1. An experienced animal culler will be able to dislocate the necks on average of 2 birds per minute; each minute during an 8 hour shift, or 120 birds per hour. This takes into account "bio-breaks", dislocating the necks of more than 2 birds a minute at the beginning of the shift etc.
2. Over an 8 hour shift, an animal culler will be able to dislocate the necks of 960 birds. (8 hours X 120 birds/hour = 960 birds) Let's round-up this figure to 1,000 birds per culler per shift.

3. Our PPE needs formula assumes 4 changes of PPE per 8 hour shift.
4. Depending on the size of the flock being culled, ancillary personnel will be needed at the rate of 0.5 FTE per 8-hour shift per each culler. Ancillary personnel will be needed in operations involving flocks greater than 1,000 birds.
5. To determine country-wide PPE requirements for animal culling one needs to have the following data:
a. How many birds are in a given country? This information should be available from the host country ministry of agriculture or international organizations as FAO.
b. What is the size of the flock being culled?
6. The formula for determining PPE needs for culling operations is the same whether dealing with a small back-yard operation or commercial poultry farm. PPE requirements are based on the following formula.
i. Total # birds being culled/ 1, 000 = total # of cullers needed.
ii. Total # of cullers (X) 0.5 = total number of ancillary personnel needed.
iii. Total # of cullers (+) Total # of ancillary personnel (X) 4 = Total amount of PPE required per 8 hour shift.
1. Using this formula, we feel that Ministries of health are able to make a good estimate of the PPE needs for the country.

Patient Care:

OFDA has developed a formula for determining PPE needs for healthcare workers attending to hospitalized AI patients. We will look at 2 different scenarios:
1. The healthcare worker PPE requirements for 1 hospitalized patient.
2. The healthcare worker PPE requirements for 10 cohorted patients. Cohorting is the combining of patients with the same diagnosis into a single care group attended by a single healthcare worker team.

Assumptions:

1. The AI patient(s) are hospitalized on the medical – surgical ward and not on an intensive care unit (ICU).
2. The length of stay for a patient hospitalized with AI is 7 days.
3. The healthcare team "shift" is 24 hours and not an 8 hour shift as with the animal PPE calculations.
4. The healthcare workers in the team consist of physicians, nurses, aides, laboratory staff, housekeeping staff, dietary staff sterilization staff.
5. PPE will be changed at the rate of 4 times per 24 hour shift.

PPE requirements for a single hospitalized AI patient:

1. We calculate that 10 different staff are involved in providing care to a single hospitalized patient with AI during a 24 hour shift.
2. The amount of PPE required for taking care of 1 hospitalized AI patient for 7 days may be calculated by using the formula:

(10 healthcare workers) X (4 changes per healthcare worker per 24 hour shift) X (7 days hospital stay) = 280 sets.

PPE requirements for 10 AI patients cohorted together:

1. We calculate that there are 14 different staff involved in providing care to 10 cohorted hospitalized AI patients during a 24 hour shift.

2. The amount of PPE required for taking care of 10 cohorted hospitalized AI patients for 7 days may be calculated by using the formula:
   (14 healthcare workers) X (4 changes per healthcare worker per 24 hour shift) X
   (7 days hospital stay) = 392 sets.
3. The per capita PPE needs in this cohorting example is 39 sets of PPE as contrasted with the single hospitalized patient example of 280 sets of PPE.

Cohorting is clearly the best choice for conserving limited resources when considering hospital care for large numbers of AI infected people.

Prerequisites for purchase:

Prior to purchasing PPE each of the following must be addressed.

i. Is there an Avian Influenza response plan in place?
ii. Have responders been identified?
iii. Have training materials been developed in the native language(s)?
iv. Have responders had masks fit-tested?
v. Have responders been trained?

If the answer to each of these questions is yes, purchase of PPE may take place.

Three sizes of PPE will be available: small, medium and large. Prototype kits are available from Joe Hughart for evaluation. Large orders will require more time to process, but discounts obtained by the CBRNE Program from distributors will be passed on to the ordering organization in the form of lower kit costs. Kits will be provided to USAID at cost.

Please Note:

For every 100 kits purchased, programs should purchase 1 fit-testing kit and use it to test respirator (masks) users for proper fit and size. Federal Occupational Health stocks these kits. Cost is $49.00 US dollars.

Conclusion:

- OFDA feels that PPE provided should offer the highest level of protection according to the WHO and CDC guidelines.
- It is incumbent upon the USAID Regional Advisor to work with the WHO Regional Advisor and host-nation health officials to identify those individuals in a country who may be involved in an AI outbreak response.
- It is imperative that that fit-testing of masks and proper training in the use of PPE takes place to optimize safety and protection.
- Formulas are provided to help determine PPE needs.

Annex 8. Guidance for USAID Missions ON High Priority Actions During the First Two Weeks of Suspected AI-related Bird Deaths (UNCLASSIFIED)

Summary Over the past year outbreaks of avian influenza have spread beyond the initial countries in Asia, where it had largely been localized since its reemergence in 2003. Between December 2005 and March 17, 2006, alone, more than 25 countries in Eurasia, Europe, the Near East, and Africa have reported new outbreaks of H5N1. In coming months new outbreaks can be expected. As the virus continues to spread it becomes increasingly important that the response taken to contain the outbreaks is rapid and effective – particularly during the first two weeks of the outbreak when the potential to successfully limit the spread of the virus is greatest. This communiqué focuses on a core set of four immediate and high impact actions that USAID Missions need to ensure are taken during that two week window:

(1) confirming the presence of highly pathogenic avian influenza;
(2) implementing an appropriate containment response;
(3) ensuring the availability of essential commodities; and
(4) disseminating communications messages.

Detailed guidance on implementation of these actions, along with web linkage for additional information is provided.

Background Since the reemergence of Influenza A virus subtype H5N1 in Asia in 2003, the virus has spread to Eurasia, Europe, the Near East, and Africa. In total, the virus is responsible for over 4,000 animal outbreaks in more than 20 countries, the death of over 150 million birds, and at least 177 human infections (including 98 deaths) as of March 13, 2006. Beyond the immediate animal and human health impact, the continued evolution of the H5N1 virus has created concern that it could be on a path to becoming a pandemic virus for humans. In response, many countries, international organizations, and donors – including USAID – have begun to develop or expand programs to contain the H5N1 virus in domestic poultry populations in order to limit its economic damage and decrease the risk of human infections and the possibility of a human influenza pandemic.

Based on country experiences to date, **the first two weeks after bird deaths are reported are critical to launching a rapid and effective response**. During this time, there is likely to be lots of initial activity, but also confusion since information will be incomplete and efforts will not yet be well coordinated. In order to improve the quality of the initial in-country response, the USAID Avian and Pandemic Influenza Preparedness and Response Unit has identified critical steps in four key areas that should be taken in a country within the first two weeks following an initial outbreak of highly pathogenic avian influenza in either animals or humans. This cable outlines critical actions in each of these four essential areas: (1) confirming the presence of highly pathogenic avian influenza; (2) implementing an appropriate containment response; (3) ensuring the availability of essential commodities; and (4) disseminating communications messages.

USAID Missions can play a key role in working with the host government and in-country partners to identify and address shortcomings in each of these areas, and this guidance is

intended as a quick-reference to help missions identify gaps and program assistance effectively. It is critical that missions work closely with UN organizations including WHO and FAO, other donors, and non-governmental organizations in-country to maximize coordination and avoid duplication. In some cases, USAID's implementing partners, especially those at the community level, may be key partners in conducting supporting activities. In countries where there is a convergence of presence from several different USG agencies, close coordination and recognition of comparative advantages will be essential in ensuring successful U.S. assistance.

Activity 1: Countries should rapidly confirm the presence of Highly Pathogenic Avian Influenza (HPAI).

When there are initial reports of "suspicious" bird deaths (e.g. large numbers or high percentages of animals within flocks) it is critical that immediate steps be taken to confirm whether the outbreak is caused by highly pathogenic avian influenza (HPAI). Surveillance, sample collection and laboratory diagnosis are necessary to distinguish highly pathogenic avian influenza (HPAI) from other diseases that kill birds. As bird deaths are common, confirming the presence of HPAI is essential to identify where a rapid response should be conducted to contain the outbreak in the animal population and prevent human cases. This requires that sufficient information about bird illnesses and deaths is collected and reported, and that adequate capacity and resources are available to investigate die-offs of wild birds and domestic poultry and to collect, package and ship samples to a laboratory for diagnosis.

The following actions should be taken by in-country partners (e.g. the Ministries responsible for human health, domestic poultry, and wild birds, WHO, FAO, and private veterinarians and physicians) to attain adequate information about an outbreak to determine appropriate response measures: (Note: key commodity items referenced below and how they might be accessed are further described in Activity 3: Essential Commodities)

1. Collect critical information about the outbreak, including:
   - Location of the suspected outbreak and accurate directions for getting there
   - Number and species of dead birds or animals, and number that remain alive
   - Availability of personal protective equipment (PPE), disinfectants, and equipment for killing and disposing of birds – including sick, dead, and surviving – at the outbreak location.
   - Dates of recent movement of live birds into and out of the area and markets for live birds up to 3 weeks prior to the onset of clinical symptoms.
2. Verify that appropriate commodities for safely collecting and transporting samples for laboratory analysis are available in-country, and that lines of communication exist between national laboratories and WHO and OIE reference laboratories. If not, WHO, FAO and OIE country representatives should be notified of the event. Laboratory confirmation of H5 or H5N1 is essential for determining appropriate response actions, but do not wait for laboratory results before taking action. USG assets, including US Government Agencies, NGOs, PVOs, Peace Corps etc. should be mobilized to facilitate meeting immediate needs if national assets are overstretched.
3. Collect samples from affected birds, including:

- From sick live birds: cloacal and tracheal swabs and fresh feces and serum.
- From dead birds: cloacal and tracheal swabs and fresh feces, alimentary tract tissues (proventriculus, pancreas, intestine, cecal tonsil) and respiratory tract tissues (trachea, lung)

Note: in general, collecting samples from healthy domestic birds is not recommended.

4. Collect samples from humans who show clinical symptoms for influenza and have had contact with sick or dead birds.
5. Properly package and rapidly ship samples to national (or other) laboratories that have appropriate testing capacity. Fresh tissues and/or swab samples need to be packed in leak-proof containers in a polystyrene box containing frozen ice or gel packs. Rapid diagnostic field tests may be used for preliminary analysis of samples collected from sick or dead birds, but samples still need to be sent to OIE-accredited laboratories to confirm the diagnosis of HPAI and analyze the virus (http://www.oie.int/eng/oie/organisation/en_listeLR.htm). Human samples should be sent to a WHO reference laboratory (http://www.who.int/csr/disease/avian_influenza/guidelines/referencelabs/en) to confirm the diagnosis and analyze the virus. Note: current rapid tests are not sufficiently sensitive to deliver accurate test results on individual birds. As a result, samples from multiple birds should be pooled according to the manufacturers instructions prior to use of rapid tests.

To support the activities listed above, USAID missions should facilitate the following: collection of critical information; identification and provision of appropriate commodities (in cooperation with USAID/W); sending of samples for diagnosis/confirmation; and training related to surveillance, sampling, and diagnosis.

Activity 2: Countries should rapidly implement response measures, including animal culling and disposal of dead birds.

A rapid response for a suspected or confirmed outbreak of HPAI is appropriate when there is:

- highly pathogenic clinical disease in domestic poultry where mortality is over 50% of the flock; or
- clinical disease in domestic poultry with a diagnosis of type A influenza virus or diagnosis of H5 or diagnosis of H5N1.

Once either of these criteria is met, an emergency disease outbreak should be declared and control measures initiated immediately to protect the poultry industry and human health. (Note: an emergency disease outbreak is not normally considered a disaster and would not warrant a request for traditional OFDA assistance.) The presence of an HPAI virus in wild birds does not necessarily present an immediate threat to the poultry industry or human health, but it may have emergency disease implications if the virus becomes widespread or mutates to a more pathogenic form. Therefore, control measures, such as increased surveillance and tightening of biosecurity arrangements for domestic poultry are warranted to prevent their infection. Culling of wild birds is not recommended.

When an outbreak of HPAI is suspected or has been laboratory-confirmed as the cause of illness or death among domestic poultry, it is absolutely essential that culling measures – also called "stamping out" – be taken immediately to limit the spread of avian influenza and eradicate the virus.

For domestic poultry, the goals of eradicating HPAI by culling are:

- the rapid imposition of effective quarantine;
- stamping out by isolation of infected and potentially infected birds, followed as rapidly as possible by humane slaughter and sanitary disposal of carcasses;
- enhanced biosecurity;
- decontamination;
- prevention of movement of contaminated materials; and
- rapid surveillance to ensure that all sources and the extent of infection are detected.

Rapid reporting and diagnosis of suspected cases together with swift imposition of effective eradication and movement controls are key to achieving these objectives. In some specific circumstances where these control and eradication measures are not succeeding, vaccination of domestic poultry, with government control, may be considered as an additional component of a comprehensive control program.

The following actions should be taken to ensure safe and effective animal culling and disposal. All three actions should be conducted by taken by veterinary and animal health staff who have the appropriate equipment (refer to the OIE Contingency Manual for Avian Influenza at http://www.oie.int/eng/AVIAN_INFLUENZA/Contingency%20Manual.pdf) - including personal protective equipment (PPE), disinfectant, and equipment for disposal - and training to limit the chances of further AI transmission to birds or humans.

1. Dispose of dead birds and contaminated material that cannot be effectively treated, including dead birds, eggs, litter, manure, and feed. Effective disposal methods include burial and incineration:
    - Burial: Ensure that equipment is available in the area of the outbreak for excavating burial sites. A pit must also be prepared as soon as reports of dead birds are confirmed. The size of the pit must be at least two meters wide by two meters deep, thus enabling disposal of up to 300 birds (medium weight approx. 1.8 kg) per 1.3 meters of surface. The number of birds can be doubled each meter deeper the pit is made (3-6 meters). All biodegradable material (wood, cardboard) must be buried with the animals. The carcasses must be covered with a layer of calcium hydroxide, and then with a layer of earth of each least 40 cm.
    - Incineration: If burial is not possible, then all dead birds and contaminated material will need to be burned. A site for burning needs to be identified, and fuel needs to be provided.
2. Humanely cull (by neck dislocation or gassing with carbon dioxide) any domestic poultry within a 3-km radius of the location of any reported outbreaks. Within a 7-km radius, active surveillance and quarantine measures should be implemented.

3. Conduct appropriate decontamination. As HPAI viruses are relatively stable in feces and litter and potential sources for spreading infection can include buildings, equipment, vehicles, and mud. Decontamination entails cleaning and disinfecting the infected site, and contaminated fomites such as clothing, footwear, crates, feed sacks and equipment to remove all infective material. Prior to the use of a disinfectant, all items to be disinfected should be thoroughly cleaned to remove dirt or debris, and an appropriate disinfectant should be used (refer to FAO Avian Influenza Questions and Answers at http://www.fao.org/ag/againfo/subjects/en/health/diseases-cards/avian_qa.html#7). All used personal protective equipment (PPE) should be disposed of by burying or burning.

To support the activities listed above, USAID missions should facilitate provision of appropriate commodities and training of staff on their proper use.

Activity 3: Countries should ensure the availability of essential commodities for surveillance and response.

In order to make surveillance and culling a reality during the first two weeks following an outbreak, key commodities such as personal protective equipment (PPE), disinfectant, approved shipping containers for biological samples, and antiviral medications (for veterinary and human health staff and any ill people who have been exposed to sick or dead birds) are needed. Since many countries do not have sufficient quantities of these commodities on hand for immediate response, external assistance may be required. With support from WHO and FAO, countries should rapidly prepare for donors a list of essential commodities needed for emergency outbreak containment to include quantities and any technical specifications.

USAID/DCHA is now developing emergency stockpiles of key commodities – excluding antivirals – that will be prepared to assist countries with confirmed animal or human outbreaks of H5N1. For emergency purposes in response to an outbreak, **missions can request to access stockpiled PPE, disinfectant kits, and shipping containers for biological samples from a stockpile that is being managed centrally by USAID/DCHA**. Before making a request, missions should first consult with host governmental officials (e.g. Ministry of Agriculture, Ministry of Health), other USG agencies, WHO, and FAO to determine is there is an emergency need for these commodities. For longer-term needs, missions can use their own funds to procure PPE and disinfectant directly through the HHS Federal Occupational Health unit (see USAID AI Strategic Guidelines or http://ghintranet.usaid.gov/AIUnit/guidance/ppe.html).

Although the different categories of outbreak responders require different levels of PPE, USAID/DCHA and HHS/FOH have developed a single "PPE Kit" that provides the highest level of protection as recommended by Centers for Disease Control and Prevention (HHS/CDC) and WHO guidelines. For guidance on determining PPE needs, please refer to the USAID AI Strategic Guidelines.

To support the activities listed above, USAID missions should facilitate provision of appropriate commodities and training of staff on their proper use.

Activity 4: Countries should disseminate key communications messages to reduce anxiety and prevent the spread of disease.

Early detection and response to an HPAI outbreak must be harmonized with rapid and intensive outbreak communications to derail harmful rumors and misinformation, reduce public anxiety, and prevent further viral spread by limiting high-risk behaviors and bring outbreaks under control. HPAI, including the H5N1 strain, remains primarily an animal disease, and prevention and control of the virus needs to occur at the farm or market level, or wherever humans interact with birds. Containing and stopping the spread of this virus is the only means of decreasing the opportunity for its possible evolution into the next human pandemic influenza virus.

Once outbreaks occur, countries will need to rapidly determine emergency communications needs/gaps and obtain and disseminated appropriate messages to various stakeholders using the best available surveillance data from Activity 1 above.

To facilitate public communications as an outbreak intervention, USAID has compiled a matrix of key emergency outbreak and prevention messages (available at http://www.usaid.gov/our_work/global_health/home/News/news_items/ai_communications.html) that can be quickly adapted and diffused through existing USAID or country communications networks and organizations.

USAID is also employing integrated Avian Influenza Behavior Change Communications approaches to inform target audiences about the disease and introduce best practices for its prevention and containment. Such approaches include:

- Interpersonal communications which employ agriculture and veterinary extension agents, patient counseling by clinic health staff, and peer educators (farmer-to-farmer, vendor-to-vendor and vendor-to-consumer);
- Organizational and community outlets, such as workplace, schools, community and village level meetings, affinity groups (community groups, farmer organizations, health associations, etc.)
- Mass Media, including television, radio and print;
- Public relations/advocacy such as leader conferences, press briefings to increase the media's understanding and access to correct and appropriate information; training public spokespersons;
- Private-sector partnerships.

In addition, USAID is funding the Communications Initiative to maintain an up-to-date web page on Avian Influenza. More in-depth information, articles, links to other key web sites as well as examples of current communications materials, products, and key messages used in Avian Influenza campaigns can be found at: http://www.comminit.com/avianinfluenza.html.

USAID is currently implementing behavior change communications activities for avian influenza through the Academy for Educational Development (AED). Information on this campaign, as well as avian influenza materials and messages can be found at: http://www.aed.org/avianflu/.

To support the activities listed above, USAID missions should facilitate the process of obtaining and disseminating key messages and providing training related to communications.

Note: This guidance cable outlines key first steps that should be taken in a country in response to animal outbreaks of HPAI, and is intended as a quick-reference tool to help missions identify an appropriate role for USAID and USG assistance. Additional information and specific guidance for addressing avian influenza is available through the USAID Avian and Pandemic Influenza Preparedness and Response Unit. For more information, please contact the AI Unit through your regional bureau representative, or contact the AI Unit directly via the contacts listed below.

Regional Representatives to the AI Unit:

- ANE: Kate Crawford (202-712-4409, KaCrawford@usaid.gov)
- LAC: Peg Marshall (202-712-4062, pemarshall@usaid.gov)
- E&E: Nathan Blanchet (202-712-4443, nblanchet@usaid.gov)
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Avian and Pandemic Influenza Management and Response Unit

- Director: Dennis Carroll (202-712-5009, dcarroll@usaid.gov)
- Deputy Director: Murray Trostle (202-712-1276, mtrostle@usaid.gov)
- Preparedness and Planning: Andrew Clements (202-712-4218, aclements@usaid.gov)
- Surveillance and Response: Gavin Macgregor-Skinner (202-712-5301, gmacgregor-skinner@usaid.gov)
- Program Coordinator: Megan Fotheringham (202-712-0537, mfotheringham@usaid.gov)
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- OFDA Representative: Peter Morris (202-712-1095, pmorris@usaid.gov)